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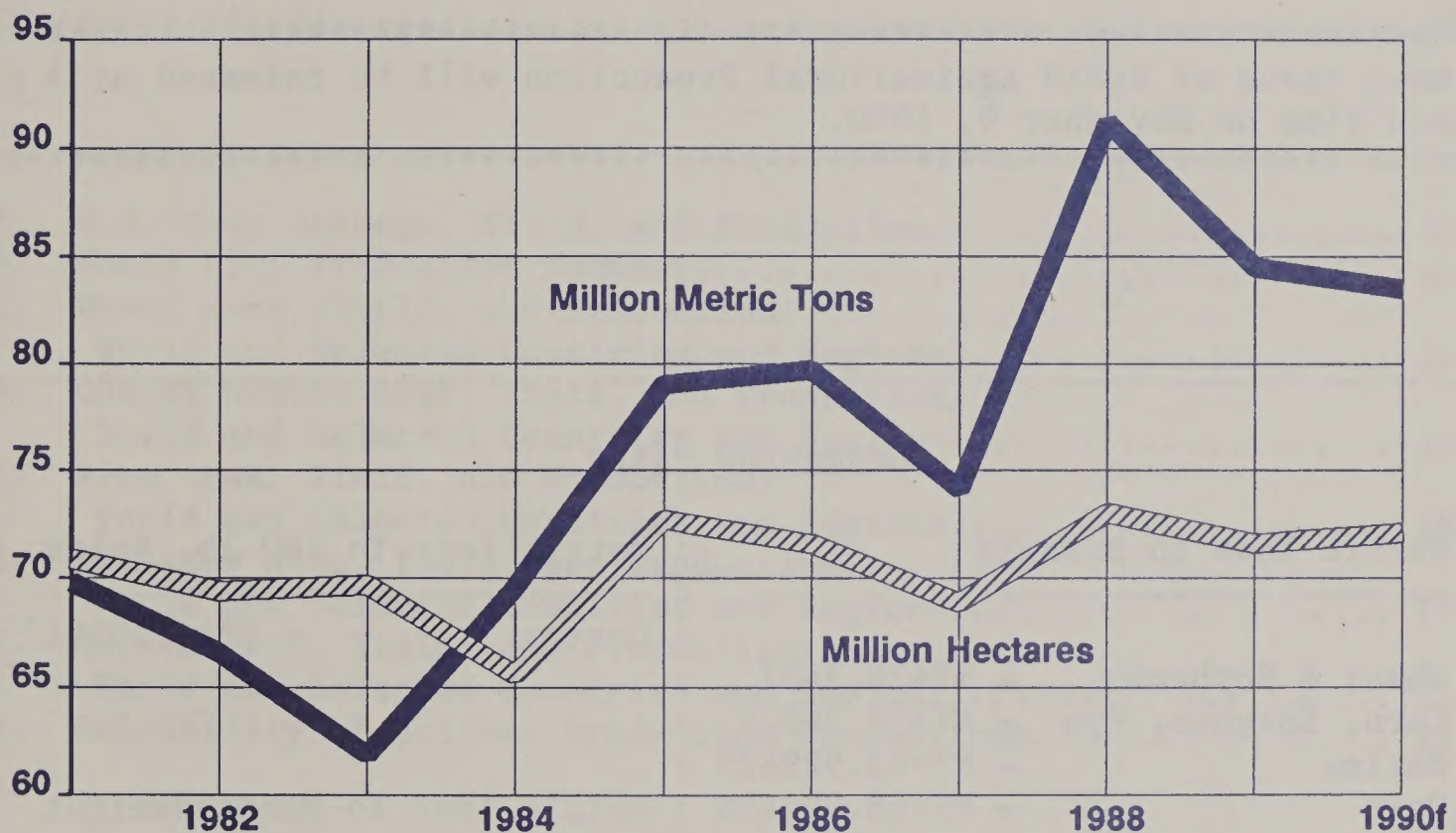
United States  
Department of  
Agriculture

Foreign  
Agricultural  
Service

Circular Series  
WAP 10-90  
October 1990

# World Agricultural Production

## TOTAL AFRICAN GRAIN



### Inside This Month's Issue.....

African Grain Production  
Cotton Production By Major Producers  
Deciduous Fruit & Table Grapes  
Soviet Grain Production Trends  
World Cocoa Production  
1990/91 Durum Wheat Situation  
World Honey Production  
World Sunflowerseed Production



This report draws on information from USDA's global network of agricultural attaches and counselors, official statistics of foreign governments, other foreign source materials, and results of office analysis. Estimates of U.S. acreage, yield, and production are from USDA's Agricultural Statistics Board, except where noted. All numbers in this report are based on unrounded data and detail may not add to totals because of rounding. This report reflects official USDA estimates released in World Agricultural Supply and Demand Estimates (WASDE-247), October 11, 1990.

This report was prepared by the Production Estimates and Crop Assessment Division (PECAD), FAS/USDA, Washington, D.C. 20250. Further information may be obtained by writing to the division or by calling (202) 382-8888.

\*\*\*\*\*  
 \* The next issue of World Agricultural Production will be released at 3 p.m. \*  
 \* eastern time on November 9, 1990. \*  
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:			:
:	CONVERSION TABLE		:
:			:
:	Metric Tons to Bushels	:	Metric Tons to 480-lb. Bales
:	-----	:	-----
:		:	Cotton = MT*4.592917
:	Wheat & Soybeans = MT*36.7437	:	
:	Corn, Sorghum, Rye = MT*39.36825	:	
:	Barley = MT*45.929625	:	
:	Oats = MT*68.894438	:	Metric Tons to Hundredweight
:	-----	:	-----
:	1 hectare = 2.471044 acres	:	Rice = MT*22.04622
:	1 kilogram = 2.204622 pounds	:	
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## PRODUCTION HIGHLIGHTS FOR 1990/91

**WHEAT:** World production for 1990/91 is estimated at a record 592.1 million metric tons, up 5.3 million or 1 percent from last month and up 10 percent from last year's harvest. Country highlights are as follows:

- o United States      Production is estimated at 74.7 million tons, down 0.3 million or less than 1 percent from last month but up 35 percent from last year. The decline is attributed to lower estimated area.
- o USSR              Production is estimated at 108.0 million metric tons, up 4.0 million or 4 percent from last month and up 13 percent from last year. The increase is due to higher estimated yield.
- o Canada            Production is estimated at 31.0 million tons, up 2.5 million or 9 percent from last month and up 27 percent from the revised estimate of last year's crop. The change is based on the second estimate taken by Statistics Canada.
- o Australia        Production is estimated at 15.5 million tons, up 0.5 million or 3 percent from last month and up 10 percent from last year's crop. Wheat yields are estimated slightly higher, with favorable soil moisture in most growing regions.
- o Syria             Production is estimated at 1.7 million tons, up 0.2 million or 13 percent from last month and up 67 percent from last year's poor harvest. Harvested area is estimated higher.
- o Iran              Production is estimated at 6.1 million tons, down 0.7 million or 10 percent from last month, but up 5 percent from last year's revised estimate. Both area and yield are estimated down due to poor weather.
- o Brazil            Production is estimated at 4.0 million tons, down 0.5 million or 11 percent from last month and down 28 percent from last year. Frost, sleet, and strong winds occurred in the main growing regions damaging crops and reducing estimated yields.
- o Pakistan        Production is estimated at 14.3 million tons, down 0.3 million or 2 percent from last month, and down 1 percent from last year's crop. Both area and yield are estimated slightly lower.



- o Chile Production is estimated at 1.4 million tons, down 0.2 million tons or 13 percent from last month and down 18 percent from 1989. Estimated area was lowered and yields were reduced due to a continuing drought.

COARSE GRAINS: World production for 1990/91 is estimated at 823.9 million tons, up 2.4 million or less than 1 percent from last month, and up 3 percent from last year. Country highlights are as follows:

- o United States Production is estimated at 232.6 million tons, down 2.7 million or 1 percent from last month, but up 5 percent from 1989/90. A reduction in corn, sorghum, oats, and rye more than offset an increase in barley production.
- o USSR Production is estimated at 114.0 million tons, up 1.0 million or 1 percent from last month and up 9 percent from last year. Increases in barley and oats more than offset a reduction in corn output.
- o China Production is estimated at a record 100.4 million tons, up 4.0 million or 4 percent from last month and up 6 percent from last year. A record corn crop of 84.0 million tons is expected this year due to higher estimated area and excellent weather during the growing season.
- o Other W. Europe Production is estimated at 13.3 million tons, up 0.6 million or 5 percent from last month and up 8 percent from last year. Favorable weather is estimated to have resulted in record yields for Swedish barley and oats.
- o Iran Production is estimated at 2.5 million tons, up 0.6 million or 32 percent from last month, but down 7 percent from last year's revised estimate. Barley area is estimated up, in accordance with a series revision.
- o Australia Production is estimated at 6.8 million tons, up 0.3 million or 4 percent from last month, but down 1 percent from last year. Barley and oats harvested area are estimated slightly higher, along with improved yields due to favorable soil moisture levels.



- o Nigeria Production is estimated at 7.7 million tons, down 0.8 million or 9 percent from last month and down 5 percent from last year. Inadequate rainfall at planting and dissatisfaction with last year's corn prices led to a reduction in estimated corn area. Estimated millet and sorghum yields have decreased due to localized grasshopper damage and poor rainfall.
- o EC-12 Production is estimated at 77.0 million tons, down 0.4 million or less than 1 percent from last month and down 6 percent from last year. The decline largely reflects a lower estimate for French corn area.
- o Syria Production is estimated at 0.7 million tons, down 0.3 million or 26 percent from last month, but up 63 percent from last year's poor harvest. Barley harvested area and yield are estimated lower.

**RICE (MILLED-BASIS):** World production for 1990/91 is estimated at at a record 345.0 million tons, up 2.8 million or 1 percent from last month and up 1 percent from the 1989/90 crop. Foreign production in 1990/91 is projected at a record 340.0 million tons. U.S. output is projected at 5.0 million tons, down 2 percent from last season. Country highlights are as follows:

- o India Production is estimated at a record 73.0 million tons, up 2.5 million or 4 percent from last month and up 4 percent from last year's crop. A record yield is estimated owing to favorable weather in India's rice growing regions.
- o China Production is estimated at 127.4 million tons, up 1.4 million or 1 percent from last month and up 1 percent from last year. Record yields are estimated due to mostly favorable weather and the expanded use of hybrid rice varieties.
- o Thailand Production is estimated at 13.2 million tons, down 0.7 million or 5 percent from last month and down 4 percent from last year. This revision is based on expected yield reductions in the lower north and central provinces due to inadequate rainfall and brown planthopper damage.
- o Cambodia Production is estimated at 1.1 million tons, down 0.3 million or 19 percent from last month and down 17 percent from last year. Insufficient rainfall, along with reduced estimated area is reflected in the downward revision.



**OILSEEDS:** Total world oilseeds production during 1990/91 is forecast at a record 216.1 million tons, down 1.2 million from last month, but up 4.9 million or 2 percent above the 1989/90 crop. Foreign production during 1990/91 is projected to be a record 158.8 million tons, down 0.6 million tons from last month, but up 6.8 million or 4 percent from last year. U.S. production is projected at 57.3 million tons, down 0.6 million or 1 percent from last month and down 1.9 million or 3 percent from 1989/90.

\* **Soybeans:** World production for 1990/91 is forecast at 104.3 million tons, down 0.9 million or 1 percent from last month and down 1.7 million or 2 percent from last year. Total foreign soybean output is forecast down 0.6 million tons from last month to 54.6 million, but up 1.0 million or 2 percent from 1989/90. Country highlights are as follows:

- o **United States** Production is estimated at 49.6 million tons, down 0.3 million or 1 percent from last month and down 2.7 million or 5 percent from 1989/90. The National Agricultural Statistics Service (NASS) reduced both the estimate of harvested area and yield slightly.
- o **Argentina** Production is estimated at 10.5 million tons, down 0.5 million or 5 percent from last month and down 0.3 million or nearly 2 percent from last year. While area is expected to increase over last year, this months forecast was reduced by 0.2 million hectares or 4 percent due to rising input costs and further slippage in grower prices because of a strong Austral.
- o **China** Production is estimated at 11.5 million tons, down 0.3 million or 3 percent from last month, but up 12 percent from last year. Provincial reports indicate that planted area was much lower than previously estimated, but yields are still expected to be excellent this year.
- o **India** Production is estimated at a record 2.0 million tons, up 0.2 million or 11 percent from last month and up 18 percent from last year's record crop. Record yields from ideal monsoon rainfall and increased soybean area have boosted production considerably this year.

\* **Cottonseed:** World production for 1990/91 is forecast at 33.5 million tons, up 0.2 million or 1 percent from last month and up 2.9 million or 9 percent from last year. Total foreign production is estimated at 28.4 million tons, 7.4 percent above last year. Country highlights are as follows:

- o **United States** Production is estimated at 5.1 million tons, down 1 percent from last month, but up 0.9 million or 21 percent from last year. NASS/USDA lowered cotton lint and seed yields due to weather.



- o India                      Production is estimated at a record 4.5 million tons, up 0.2 million or 4 percent from last month and up 1 percent from last year's crop. Favorable moisture conditions in most cotton growing areas have raised cotton yield estimates.
  
- \* Peanuts: World production for 1990/91 is forecast at 21.5 million tons, down 90,000 tons from last month. Total foreign production is estimated at 20.0 million tons, unchanged from last month, but up 0.2 million or 1 percent over 1989/90. Country highlights are as follows:
  - o United States              Production is estimated at 1.5 million tons, down 90,000 tons or 6 percent from last month and down 16 percent from last year's crop. NASS/USDA lowered yield expectation by 16 percent from last month due to poor weather in the southern states.
  
- \* Sunflowerseed: World production for 1990/91 is forecast at a record 22.3 million tons, down 0.6 million or 3 percent from last month, but up 0.6 million or 3 percent from last year. Total foreign production was lowered this month to 21.3 million tons, down 0.5 million but is still 2 percent above last year. Country highlights are as follows:
  - o United States              Production is estimated at 1.0 million tons, down 0.1 million or 13 percent from last month, but up 0.2 million or 20 percent over 1989/90. While the NASS/USDA increased this month's estimated of harvested area, yield expectations were reduced significantly due to weather conditions.
  
  - o Argentina                    Production is forecast at 3.8 million tons, down 0.2 million or 5 percent from last month and no change from last year. Area is now expected to repeat last year's level under strong competition from alternative summer crops.
  
  - o EC-12                        Production is estimated at 4.1 million tons, down 0.3 million or 6 percent from last month, but up 16 percent from last year. Harvest reports indicate that the drought in France reduced yields.
  
  - o India                         Production is estimated at 0.6 million tons, up 0.1 million or 20 percent from last month and up 20 percent from last year. Good monsoon rainfall in major growing areas have boosted yield estimates.



- o Turkey                      Production is estimated at 1.0 million tons, down 0.2 million or 13.0 percent from last month and down 19 percent from last year. Yield estimates were reduced for this year's crop due to dry conditions.
  
- \* Rapeseed: World production for 1990/91 is forecast at a record 24.0 million tons, up 0.3 million from last month and up 2.4 million or 11 percent from last year. Country highlights are as follows:
  - o EC-12                      Production is estimated at 5.9 million tons, up 0.1 million or 2 percent from last month and up 20 percent from last year. The upward adjustment reflects an increase in area and yield for Denmark.
  
  - o India                        Production is estimated at 4.0 million tons, up 0.2 million or 5 percent from last month and up 5 percent from last year. Excellent soil moisture conditions for planting are expected to bolster yields this season.
  
- \* Flaxseed: World production for 1990/91 is forecast at 2.3 million tons, up marginally from last month and up 0.4 million or 21 percent over last year. While production by the United States is small, this year's output is expected to increase by 147 percent over last year, to 84,000 tons. Total foreign production is pegged at 2.2 million tons, up 0.4 million or 19 percent from last year. The record world crop of 3.0 million tons has not been seriously challenged since 1977/78. There were no significant changes this month.
  
- \* Copra: World production for 1990/91 is forecast at 4.9 million tons, unchanged from last month but up 0.3 million tons or 6 percent over last year. Copra production has ranged between 4.3 - 4.8 million tons for many year's, the record being 5.3 million in 1985/86. There were no changes this month.
  
- \* Palm Kernels: World production for 1990/91 is forecast at a record 3.3 million tons, up nearly 3 percent from last year. There were no changes this month.
  
- \* Palm Oil: World production for 1990/91 is forecast at a record 11.2 million tons, up nearly 0.4 million or 3 percent from last year. The upward trend continues as new trees come into production. There were no changes this month.



**COTTON:** World cotton production in 1990/91 is estimated at 87.0 million bales, up 0.1 million bales from last month and up 7.3 million or 9 percent from last year. Foreign production is estimated at 72.4 million bales, up 0.3 million from last month and 7 percent above the 1989/90 estimate. Country highlights are as follows:

- o **United States**      Production is estimated at 14.6 million bales, down 0.2 million bales or 1 percent from last month but up 19 percent from 1989/90. The 1990/91 area increased slightly from last month but was more than offset by a reduction in yield.
  
- o **Argentina**      Production is estimated at 1.4 million bales, up 0.1 million bales or 8 percent from last month and up 13 percent from last year. Area is expected to expand 13 percent from last year's level due to strong international cotton prices and the lack of competition from sunflower.
  
- o **India**      Production is estimated at a record 10.4 million bales, up 0.4 million or 4 percent from last month, and up 1 percent from last year's record crop. Cotton yields are forecast higher owing to very favorable monsoon rainfall conditions in most growing areas, as well as increased use of crop inputs.



TABLE 1

## U.S. Crop Acreage, Yield, and Production 1/

COMMODITY	PLANTED AREA			HARVESTED AREA			YIELD			PRODUCTION		
	1988/89	1989/90	Proj. 1990/91	1988/89	1989/90	Proj. 1990/91	1988/89	1989/90	Prel. 1990/91 Proj. Oct.	1988/89	1989/90	Prel. 1990/91 Proj. Sept. Oct.
	---Million Acres---			---Million Acres---			---Bushels per Acre---			---Million Bushels---		
All Wheat	65.5	76.6	77.3	53.2	62.2	69.4	34.1	32.7	39.4	1,812	2,037	2,755
Winter	48.8	55.1	57.0	39.8	41.5	50.0	39.2	35.0	41.0	1,562	1,455	2,054
Other	16.7	21.5	20.3	13.4	20.7	19.4	18.7	28.1	35.4	250	582	701
Rye	2.4	2.0	1.6	0.6	0.5	0.4	24.7	28.2	27.1	15	14	13
Soybeans	58.8	60.8	57.7	57.4	59.5	56.5	27.0	32.3	32.4	1,549	1,924	1,835
Corn	67.7	72.3	74.5	58.3	64.8	66.7	84.6	116.2	121.7	4,929	7,527	8,118
Sorghum	10.3	12.6	10.7	9.0	11.2	9.3	63.8	55.4	61.8	577	618	572
Barley	9.8	9.1	8.2	7.6	8.3	7.6	38.0	48.6	52.9	290	404	409
Oats	13.9	12.1	10.4	5.5	6.9	6.0	39.3	54.3	59.0	218	374	365
							---Pounds per Acre---			---Million CWT.---		
Rice	2.9	2.7	2.9	2.9	2.7	2.8	5,514	5,749	5,641	159.9	154.5	159.0
										---Million 480-Pound---		
All Cotton	12.5	10.6	12.3	12.0	9.5	11.5	619	614	616	15.4	12.2	14.7

1/ Source: All estimates are provided by the National Agricultural Statistics Service (NASS) of the United States Department of Agriculture, and are published in the Crop Production circular available from NASS.

October 1990

Production Estimates and Crop Assessment Division, FAS, USDA



TABLE 2

## World Crop Production Summary

Commodity	World	Total Foreign	North America		Europe		USSR	Asia				South America		Selected Other		All Other Countries				
			United States	Canada	Mexico	EC-12		Oth. W. Europe	Eastern Europe	China	India	Indo-nesia	Paki-stan	Thai-land	Argen-tina		Brazil	Aus-tralia	South Africa	Turkey
—Million Metric Tons—																				
Wheat 1988/89 1989/90 prel. 1990/91 proj. September October	501.2	451.9	49.3	16.0	3.2	74.7	3.9	44.8	84.4	85.4	46.2	0.0	12.7	0.0	8.4	5.8	14.1	3.5	15.0	17.7
	537.1	481.7	55.4	24.3	4.0	78.5	4.4	44.2	92.3	90.8	54.0	0.0	14.4	0.0	10.2	5.6	14.1	2.0	11.5	16.1
	586.9	511.9	75.0	28.6	3.5	80.8	4.8	44.3	104.0	96.0	54.0	0.0	14.6	0.0	11.5	4.5	15.0	2.5	14.0	16.6
	592.1	517.5	74.7	31.0	3.5	80.8	5.0	44.4	108.0	96.0	54.0	0.0	14.3	0.0	11.5	4.0	15.5	2.4	14.0	16.5
Coarse Grains 1988/89 1989/90 prel. 1990/91 proj. September October	731.2	581.5	149.7	19.7	13.8	88.1	11.4	61.3	97.5	94.2	31.7	5.2	2.4	4.4	7.3	26.7	6.7	13.0	10.0	88.2
	800.3	578.8	221.5	23.5	14.1	82.0	12.3	68.0	104.8	94.6	31.2	4.8	2.8	4.2	8.1	23.1	6.9	10.0	7.4	80.9
	821.6	586.3	235.3	25.4	15.0	77.4	12.6	62.3	113.0	96.4	32.3	5.0	2.8	4.3	9.5	25.4	6.6	9.3	8.5	80.4
	823.9	591.3	232.6	25.6	15.0	77.0	13.3	62.3	114.0	100.4	32.3	5.0	2.9	4.3	9.5	25.4	6.8	9.3	8.5	79.7
Rice (Milled) 1988/89 1989/90 1990/91 September October	330.2	325.0	5.2	0.0	0.3	1.3	0.0	0.2	1.9	118.4	70.7	27.5	3.2	13.9	0.3	7.5	0.6	0.0	0.2	22.9
	340.8	335.7	5.1	0.0	0.4	1.3	0.0	0.2	1.7	126.1	70.0	29.1	3.2	13.7	0.2	5.4	0.6	0.0	0.2	23.5
	342.2	337.1	5.0	0.0	0.3	1.5	0.0	0.2	1.7	126.0	70.5	28.8	3.5	13.9	0.3	6.7	0.6	0.0	0.2	23.3
	345.0	340.0	5.0	0.0	0.3	1.5	0.0	0.2	1.7	127.4	73.0	28.8	3.5	13.2	0.3	6.7	0.5	0.0	0.2	23.0
Total Grains 1/ 1988/89 1989/90 1990/91 September October	1,562.6	1,358.4	204.2	35.7	17.2	164.1	15.2	106.3	183.8	298.0	148.6	32.7	18.2	18.4	16.0	40.0	21.3	16.6	25.2	201.2
	1,678.1	1,396.1	282.0	47.8	18.5	161.8	16.7	112.4	198.8	311.5	155.2	33.9	20.4	17.9	18.5	34.0	21.7	12.1	19.1	196.0
	1,750.6	1,435.3	315.3	54.0	18.8	159.7	17.4	106.8	218.7	318.4	156.8	33.8	20.9	18.2	21.3	36.6	22.2	11.8	22.7	197.2
	1,761.0	1,448.7	312.3	56.6	18.7	159.3	18.2	106.9	223.7	323.8	159.3	33.8	20.7	17.5	21.3	36.1	22.8	11.7	22.7	195.6
Oilseeds 2/ 1988/89 1989/90 prel. 1990/91 proj. September October	202.9	152.6	50.3	5.9	1.0	11.5	0.6	5.1	12.7	30.6	19.0	2.0	3.2	0.8	10.7	24.6	0.8	0.9	2.3	20.9
	211.2	152.0	59.2	4.9	1.4	11.0	0.7	6.0	13.4	28.5	18.6	2.0	3.3	0.8	15.9	20.7	2.4	0.9	2.3	19.2
	217.3	159.3	57.9	5.6	1.0	12.8	0.8	5.3	13.4	33.0	18.2	2.1	3.4	0.9	16.4	20.5	0.9	1.0	2.2	22.1
	216.1	158.8	57.3	5.6	1.0	12.6	0.8	5.3	13.4	32.7	18.8	2.1	3.4	0.9	15.8	20.5	0.9	1.0	2.0	22.0
Cotton 1988/89 1989/90 prel. 1990/91 proj. September October	84.6	69.2	15.4	0.0	1.4	1.6	0.0	0.1	12.7	19.1	8.3	0.0	6.5	0.2	0.9	3.4	1.3	0.4	3.0	10.4
	79.7	67.5	12.2	0.0	0.8	1.5	0.0	0.1	12.2	17.4	10.3	0.0	6.7	0.2	1.2	3.0	1.4	0.3	2.8	9.6
	86.9	72.1	14.7	0.0	0.9	1.5	0.0	0.1	12.0	20.5	10.0	0.0	6.9	0.2	1.3	3.4	1.6	0.3	2.9	10.6
	87.0	72.4	14.6	0.0	0.9	1.5	0.0	0.1	12.0	20.5	10.4	0.0	6.9	0.2	1.4	3.4	1.6	0.3	2.9	10.4

1/ Includes total of wheat, coarse grains, and rice (milled) shown above. Estimates of Soviet total grain production, including wheat, coarse grains, rice (rough), minor grains and pulses are 195.1 million tons in 1988/89, 210.9 million in 1989/90, and 235.0 million forecast in 1990/91.

2/ Totals for major regions and countries include the six major oilseeds shown elsewhere in this report, while world and total foreign also include copra and palm kernels for all countries.

Note: Entries of 0.0 indicate no reported or insignificant production.

October 1990

Production Estimates and Crop Assessment Division, FAS, USDA



TABLE 3

# Wheat Area, Yield, and Production

## World and Selected Countries and Regions

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	1988/89	Prel. 1989/90	Proj. 1990/91	1988/89	Prel. 1989/90	1990/91 Sept.	Proj. Oct.	1988/89	Prel. 1989/90	1990/91 Sept.	Proj. Oct.
	---Million Hectares---			---Metric Tons Per Hectare---				---Million Metric Tons---			
World	218.4	225.8	230.7	2.29	2.38	2.54	2.57	501.2	537.1	586.9	592.1
United States	21.5	25.2	28.1	2.29	2.20	2.65	2.66	49.3	55.4	75.0	74.7
Total Foreign	196.9	200.6	202.7	2.30	2.40	2.52	2.55	451.9	481.7	511.9	517.5
Maj. Foreign Exporters	42.1	44.3	45.6	2.69	2.87	2.97	3.04	113.1	127.1	135.8	138.8
Argentina	4.7	5.5	6.0	1.79	1.86	1.92	1.92	8.4	10.2	11.5	11.5
Australia	8.9	8.9	10.0	1.57	1.58	1.50	1.55	14.1	14.1	15.0	15.5
Canada	13.0	13.6	14.1	1.23	1.79	2.03	2.20	16.0	24.3	28.6	31.0
EC-12	15.5	16.3	15.6	4.82	4.83	5.18	5.19	74.7	78.5	80.8	80.8
Major Importers	95.9	97.2	97.7	2.39	2.49	2.65	2.69	229.3	242.3	259.3	262.9
Brazil	3.5	3.4	3.0	1.68	1.65	1.50	1.33	5.8	5.6	4.5	4.0
China	28.8	29.8	30.3	2.97	3.04	3.17	3.17	85.4	90.8	96.0	96.0
Eastern Europe	10.7	10.7	10.7	4.17	4.15	4.15	4.16	44.8	44.2	44.3	44.4
Egypt	0.6	0.6	0.7	4.76	5.05	5.71	5.71	2.8	3.2	4.0	4.0
Other N. Africa 1/	4.0	4.7	5.2	1.26	1.13	1.06	1.06	5.0	5.3	5.5	5.5
Japan	0.3	0.3	0.3	3.62	3.47	3.52	3.52	1.0	1.0	1.0	1.0
USSR	48.1	47.7	47.5	1.76	1.94	2.19	2.27	84.4	92.3	104.0	108.0
Other Foreign	58.9	59.1	59.4	1.86	1.90	1.96	1.95	109.5	112.2	116.8	115.7
India	23.1	24.1	23.7	2.00	2.24	2.28	2.28	46.2	54.0	54.0	54.0
Iran	6.6	6.0	6.1	1.11	0.97	1.08	1.00	7.3	5.8	6.8	6.1
Mexico	0.8	1.0	0.9	4.00	4.21	4.12	4.12	3.2	4.0	3.5	3.5
Non-EC W. Europe	0.8	0.8	0.9	5.02	5.17	5.27	5.47	3.9	4.4	4.8	5.0
Pakistan	7.3	7.7	7.8	1.73	1.87	1.87	1.84	12.7	14.4	14.6	14.3
South Africa	2.0	1.8	1.7	1.78	1.09	1.35	1.41	3.5	2.0	2.5	2.4
Turkey	8.8	8.7	8.8	1.71	1.32	1.60	1.60	15.0	11.5	14.0	14.0
Others	9.6	9.0	9.6	1.84	1.80	1.74	1.72	17.7	16.1	16.6	16.5

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TABLE 4  
Coarse Grains Area, Yield, and Production  
World and Selected Countries and Regions

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	1988/89	Prel. 1989/90	Proj. 1990/91	1988/89	Prel. 1989/90	1990/91 Sept.	Proj. Oct.	1988/89	Prel. 1989/90	1990/91 Sept.	Proj. Oct.
<b>TOTAL COARSE GRAINS</b>	---Million Hectares---			---Metric Tons Per Hectare---				---Million Metric Tons---			
World	326.0	323.3	324.1	2.24	2.48	2.54	2.54	731.2	800.3	821.6	823.9
United States	32.8	37.1	36.4	4.56	5.97	6.44	6.40	149.7	221.5	235.3	232.6
Total Foreign	293.2	286.2	287.7	1.98	2.02	2.04	2.06	581.5	578.8	586.3	591.3
Maj. Foreign Exporters	20.6	21.3	21.6	2.48	2.47	2.56	2.57	51.1	52.7	55.2	55.5
Argentina	2.9	3.1	3.3	2.49	2.65	2.85	2.85	7.3	8.1	9.5	9.5
Australia	4.2	4.0	4.3	1.58	1.71	1.55	1.58	6.7	6.9	6.6	6.8
Canada	7.1	8.3	8.1	2.76	2.84	3.16	3.17	19.7	23.5	25.4	25.6
South Africa	4.6	4.4	4.4	2.86	2.27	2.11	2.11	13.0	10.0	9.3	9.3
Thailand	1.8	1.6	1.5	2.50	2.71	2.89	2.89	4.4	4.2	4.3	4.3
Major Importers	106.3	103.8	101.4	2.57	2.72	2.78	2.79	273.5	282.6	281.8	283.0
Eastern Europe	18.2	18.2	18.2	3.37	3.74	3.42	3.42	61.3	68.0	62.3	62.3
EC-12	19.2	18.6	17.8	4.60	4.42	4.32	4.33	88.1	82.0	77.4	77.0
Other W. Europe	3.2	3.1	3.0	3.54	3.98	4.17	4.37	11.4	12.3	12.6	13.3
Mexico	7.5	7.5	7.9	1.85	1.88	1.89	1.89	13.8	14.1	15.0	15.0
USSR	57.8	56.0	54.0	1.69	1.87	2.09	2.11	97.5	104.8	113.0	114.0
Other Major Import. 2/	0.5	0.4	0.4	3.40	3.34	3.34	3.34	1.5	1.4	1.4	1.4
Other Foreign	166.2	161.1	164.7	1.55	1.51	1.52	1.53	256.9	243.4	249.3	252.7
Brazil	13.4	12.8	13.3	2.00	1.81	1.92	1.92	26.7	23.1	25.4	25.4
China	28.3	28.5	29.2	3.33	3.32	3.36	3.44	94.2	94.6	96.4	100.4
India	39.1	38.6	39.4	0.81	0.81	0.82	0.82	31.7	31.2	32.3	32.3
Indonesia	2.9	2.6	2.8	1.82	1.85	1.79	1.79	5.2	4.8	5.0	5.0
Nigeria	10.1	9.9	9.7	0.84	0.82	0.84	0.79	8.5	8.1	8.5	7.7
Philippines	3.8	3.6	3.7	1.21	1.24	1.24	1.24	4.5	4.5	4.6	4.6
Turkey	4.4	4.4	4.5	2.29	1.68	1.91	1.91	10.0	7.4	8.5	8.5
Others	64.4	60.7	62.2	1.18	1.15	1.12	1.11	76.0	69.6	68.6	68.8
<b>BARLEY</b>											
World	78.2	75.0	74.2	2.15	2.26	2.39	2.42	167.9	169.5	176.2	179.2
United States	3.1	3.4	3.1	2.04	2.62	2.84	2.97	6.3	8.8	8.9	9.1
Total Foreign	75.1	71.7	71.1	2.15	2.24	2.37	2.39	161.6	160.7	167.3	170.1
Australia	2.2	2.4	2.4	1.51	1.73	1.51	1.55	3.3	4.1	3.6	3.8
Canada	4.2	4.7	4.6	2.46	2.50	2.83	2.88	10.2	11.7	13.0	13.2
China	3.7	3.3	3.3	1.67	1.74	1.73	1.73	6.2	5.7	5.7	5.7
Eastern Europe	4.5	4.5	4.6	3.77	4.25	3.91	4.11	17.1	19.3	17.9	18.9
EC-12	12.2	11.8	11.5	4.13	3.93	3.91	3.91	50.2	46.2	44.8	44.8
Other W. Europe	1.7	1.5	1.5	3.30	3.85	3.98	4.07	5.7	5.8	5.9	6.1
Turkey	3.3	3.4	3.4	2.12	1.46	1.76	1.76	7.0	4.9	6.0	6.0
USSR	29.7	27.6	26.0	1.50	1.75	2.15	2.19	44.5	48.5	56.0	57.0
Others	13.6	12.5	13.9	1.28	1.16	1.08	1.06	17.4	14.5	14.4	14.7

FOOTNOTES AT END OF TABLE

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TABLE 4 (Continued)  
**Coarse Grains Area, Yield, and Production**  
**World and Selected Countries and Regions**

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	Prel. 1988/89	Proj. 1989/90	Proj. 1990/91	Prel. 1988/89	1990/91 1989/90	Proj. Sept.	Proj. Oct.	Prel. 1988/89	1990/91 1989/90	Proj. Sept.	Proj. Oct.
<b><u>CORN</u></b>	---Million Hectares---			---Metric Tons Per Hectare---				---Million Metric Tons---			
World	125.0	126.2	127.8	3.20	3.65	3.71	3.69	400.5	460.8	472.6	471.3
United States	23.6	26.2	27.0	5.31	7.29	7.64	7.55	125.2	191.2	206.2	203.8
Total Foreign	101.4	100.0	100.8	2.71	2.70	2.65	2.65	275.3	269.6	266.4	267.5
Maj. Foreign Exporters	7.1	6.6	6.9	3.05	2.75	2.77	2.77	21.6	18.2	19.1	19.1
Argentina	1.7	1.6	2.0	2.94	3.09	3.33	3.33	5.0	5.0	6.5	6.5
South Africa	3.8	3.6	3.6	3.28	2.56	2.36	2.36	12.4	9.2	8.5	8.5
Thailand	1.6	1.4	1.4	2.63	2.86	3.04	3.04	4.2	4.0	4.1	4.1
Major Importers	22.0	21.2	21.1	3.82	3.95	3.61	3.52	84.0	83.7	76.4	74.2
Eastern Europe	7.1	7.1	7.0	3.78	4.20	3.65	3.46	27.0	29.8	25.6	24.3
EC-12	4.1	3.9	3.5	7.00	6.91	6.45	6.56	28.5	26.8	23.3	22.9
Other W. Europe	0.2	0.2	0.2	8.55	7.68	8.35	8.35	1.9	1.7	1.8	1.8
Mexico	6.0	5.8	6.2	1.68	1.68	1.72	1.72	10.1	9.8	10.7	10.7
USSR	4.4	4.1	4.0	3.62	3.71	3.63	3.50	16.0	15.3	14.5	14.0
Other Maj. Import. 2/	0.1	0.1	0.1	4.20	4.17	4.14	4.14	0.4	0.5	0.5	0.5
Other Foreign	72.4	72.1	72.8	2.34	2.32	2.36	2.39	169.7	167.7	170.9	174.2
Brazil	12.9	12.2	12.7	2.02	1.82	1.93	1.93	26.1	22.2	24.5	24.5
Canada	1.0	1.0	1.0	5.47	6.36	6.64	6.54	5.4	6.4	6.9	6.8
China	19.7	20.4	21.0	3.93	3.88	3.90	4.00	77.4	78.9	80.0	84.0
Egypt	0.8	0.8	0.9	5.20	5.37	5.41	5.41	4.3	4.5	4.6	4.6
India	5.9	6.0	6.0	1.40	1.33	1.33	1.33	8.3	8.0	8.0	8.0
Indonesia	2.9	2.6	2.8	1.82	1.85	1.79	1.79	5.2	4.8	5.0	5.0
Philippines	3.8	3.6	3.7	1.21	1.24	1.24	1.24	4.5	4.5	4.6	4.6
Zimbabwe	1.2	1.2	1.2	1.56	1.67	1.74	1.74	1.9	2.0	2.0	2.0
Others	24.2	24.3	23.6	1.51	1.49	1.49	1.47	36.7	36.3	35.3	34.7
<b><u>SORGHUM</u></b>											
World	42.5	42.3	42.2	1.30	1.31	1.31	1.30	55.4	55.6	55.2	54.8
United States	3.7	4.5	3.7	4.00	3.48	3.88	3.81	14.6	15.7	14.5	14.3
Total Foreign	38.9	37.8	38.5	1.05	1.05	1.06	1.05	40.8	39.9	40.7	40.5
Argentina	0.6	0.7	0.7	2.33	2.86	3.00	3.00	1.4	2.0	2.1	2.1
Australia	0.6	0.4	0.6	1.86	2.27	1.94	2.00	1.2	0.9	1.2	1.2
China	1.8	1.8	1.8	3.14	2.94	3.02	3.02	5.6	5.4	5.5	5.5
India	14.8	15.5	15.3	0.71	0.74	0.75	0.75	10.5	11.5	11.5	11.5
Mexico	1.1	1.3	1.3	2.83	2.88	2.85	2.85	3.1	3.8	3.7	3.7
Nigeria	4.4	4.4	4.4	0.80	0.80	0.80	0.75	3.5	3.5	3.5	3.3
South Africa	0.3	0.3	0.3	1.58	1.65	1.65	1.65	0.4	0.5	0.5	0.5
Sudan	5.3	3.5	4.4	0.83	0.64	0.64	0.64	4.4	2.3	2.8	2.8
Thailand	0.2	0.2	0.1	1.35	1.33	1.43	1.43	0.2	0.2	0.2	0.2
Others	9.8	9.7	9.5	1.07	1.02	1.02	1.02	10.4	9.9	9.6	9.7

FOOTNOTES AT END OF TABLE

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TABLE 4 (Continued)  
**Coarse Grains Area, Yield, and Production**  
**World and Selected Countries and Regions**

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	Prel. 1988/89	Proj. 1989/90	Proj. 1990/91	Prel. 1988/89	1990/91 1989/90	Proj. Sept.	Proj. Oct.	Prel. 1988/89	1990/91 1989/90	Proj. Sept.	Proj. Oct.
<b><u>OATS</u></b>	---Million Hectares---			---Metric Tons Per Hectare---				---Million Metric Tons---			
World	22.1	22.7	21.7	1.70	1.84	1.93	1.98	37.6	41.8	41.8	42.9
United States	2.2	2.8	2.4	1.41	1.95	2.12	2.16	3.2	5.4	5.3	5.2
Total Foreign	19.8	19.9	19.3	1.74	1.83	1.90	1.96	34.4	36.4	36.5	37.7
USSR	10.9	10.8	10.5	1.40	1.57	1.62	1.67	15.3	16.8	17.0	17.5
Maj. Foreign Exporters	3.5	3.7	3.5	1.95	1.97	2.05	2.12	6.8	7.3	7.0	7.4
Argentina	0.4	0.4	0.5	1.27	1.44	1.33	1.33	0.5	0.6	0.6	0.6
Australia	1.3	1.1	1.2	1.51	1.44	1.36	1.38	2.0	1.6	1.5	1.6
Canada	1.4	1.7	1.5	2.18	2.08	2.36	2.36	3.0	3.5	3.5	3.5
Sweden	0.4	0.4	0.4	3.14	3.54	3.80	4.51	1.3	1.5	1.3	1.6
Other Foreign	5.4	5.5	5.3	2.28	2.26	2.37	2.42	12.4	12.3	12.5	12.8
China	0.6	0.6	0.6	1.19	1.15	1.21	1.21	0.7	0.6	0.7	0.7
Eastern Europe	1.4	1.4	1.3	2.62	2.69	2.67	2.80	3.7	3.7	3.5	3.7
East Germany	0.1	0.1	0.2	3.43	3.33	4.00	4.00	0.5	0.5	0.6	0.6
Poland	0.9	0.8	0.7	2.61	2.72	2.55	2.78	2.2	2.2	1.9	2.1
EC-12	1.8	1.7	1.6	3.11	2.78	3.07	3.05	5.5	4.7	4.9	4.9
France	0.3	0.3	0.2	3.77	3.78	3.80	3.80	1.0	1.0	0.9	0.9
West Germany	0.6	0.5	0.5	4.23	3.78	4.38	4.37	2.4	1.9	2.1	2.1
Finland	0.4	0.4	0.5	2.21	3.24	3.30	3.59	0.9	1.4	1.5	1.6
Norway	0.1	0.1	0.1	3.09	3.53	4.77	4.77	0.4	0.4	0.6	0.6
Others	1.2	1.3	1.2	1.09	1.10	1.10	1.10	1.3	1.4	1.4	1.4
<b><u>RYE</u></b>											
World	15.9	16.9	16.7	2.08	2.21	2.31	2.31	33.0	37.4	38.8	38.6
United States	0.2	0.2	0.2	1.55	1.77	1.89	1.70	0.4	0.3	0.3	0.3
Total Foreign	15.6	16.7	16.6	2.09	2.22	2.31	2.31	32.6	37.1	38.4	38.4
USSR	10.1	10.7	10.5	1.83	1.87	2.00	2.00	18.5	20.1	21.0	21.0
Maj. Foreign Exporter											
Canada	0.3	0.5	0.5	1.04	1.74	1.73	1.73	0.3	0.9	0.9	0.9
Other Foreign											
Eastern Europe	3.9	3.9	4.0	2.59	2.96	2.94	2.91	10.0	11.6	11.9	11.7
East Germany	0.6	0.6	0.6	2.94	3.34	3.61	3.44	1.8	2.1	2.2	2.1
Poland	2.9	2.9	3.1	2.52	2.95	2.85	2.84	7.2	8.6	8.7	8.7
Czechoslovakia	0.2	0.2	0.2	3.42	3.42	3.42	3.42	0.5	0.5	0.5	0.5
EC-12	0.9	1.0	1.0	3.05	3.31	3.36	3.45	2.9	3.2	3.3	3.3
Denmark	0.1	0.1	0.1	4.52	4.80	4.78	4.78	0.4	0.5	0.6	0.6
West Germany	0.4	0.4	0.4	4.19	4.69	4.75	4.72	1.6	1.8	2.0	2.0
Others	0.5	0.6	0.6	2.06	2.28	2.39	2.48	1.0	1.3	1.3	1.4

1/ Total of barley, corn, sorghum, oats, and rye shown below plus millet and mixed grain.

2/ Japan, Republic of Korea, and Taiwan.

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# Rice Area, Yield, and Production

## World and Selected Countries and Regions

COUNTRY/REGION	AREA		YIELD		PRODUCTION (Rough Basis)		MILLING RATE		PRODUCTION (Milled Basis)							
	Prel. 1988/89	Proj. 1990/91	Prel. 1988/89	1990/91 Proj. Sept. Oct.	Prel. 1988/89	1990/91 Proj. Sept. Oct.	Prel. 1988/89	1990/91 Proj. Sept. Oct.	Prel. 1988/89	1990/91 Proj. Sept. Oct.						
	—Million Hectares—		—Metric Tons Per Hectare—		—Million Metric Tons—		—In Percent—		—Million Metric Tons—							
World	145.5	146.5	145.9		487.7	504.5	506.9	511.0	67.7	67.6	67.5	67.5	330.2	340.8	342.2	345.0
United States	1.2	1.1	1.1		6.2	6.4	6.3	6.3	71.5	73.0	70.0	70.0	5.2	5.1	5.0	5.0
Total Foreign	144.4	145.4	144.8		3.3	3.4	3.4	3.5	67.6	67.5	67.5	67.5	325.0	335.7	337.1	340.0
Maj. Foreign Exporters	16.5	17.0	17.0		2.3	2.3	2.4	2.3	64.1	64.0	64.0	63.9	24.6	25.0	25.8	25.1
Burma	4.5	4.7	4.9		2.8	2.9	2.9	2.9	60.0	60.0	60.0	60.0	7.5	8.1	8.4	8.4
Pakistan	2.0	2.1	2.1		2.4	2.3	2.5	2.5	66.7	66.7	66.7	66.7	3.2	3.2	3.5	3.5
Thailand	9.9	10.2	10.0		2.1	2.0	2.1	2.0	66.0	66.0	66.0	66.0	13.9	13.7	13.9	13.2
Major Importers	13.0	13.7	13.2		4.3	4.3	4.4	4.4	66.2	66.1	66.1	66.1	36.9	38.5	38.1	38.1
EC-12	0.3	0.3	0.4		5.6	5.9	6.0	6.0	67.3	67.0	67.3	67.3	1.3	1.3	1.5	1.5
Indonesia	9.8	10.4	10.0		4.3	4.3	4.5	4.5	65.0	65.0	65.0	65.0	27.5	29.1	28.8	28.8
Nigeria	0.6	0.6	0.7		1.3	1.4	1.5	1.5	66.5	66.5	66.5	66.5	0.6	0.6	0.6	0.6
Republic of Korea	1.3	1.3	1.2		6.6	6.5	6.4	6.4	72.3	72.0	72.0	72.0	6.1	5.9	5.5	5.5
Other Maj. Import. 1/	1.0	1.0	1.1		2.3	2.4	2.3	2.3	65.4	65.5	65.5	65.5	1.5	1.6	1.6	1.6
Other Foreign	114.8	114.7	114.6		3.4	3.5	3.5	3.6	68.2	68.0	68.0	68.0	263.4	272.1	273.3	276.8
Australia	0.1	0.1	0.1		8.3	7.8	8.0	8.1	71.6	71.5	71.5	71.5	0.6	0.6	0.6	0.5
Bangladesh	10.2	10.7	10.6		2.3	2.5	2.5	2.5	66.7	66.7	66.7	66.7	15.6	18.0	17.5	17.5
Brazil	5.3	4.2	4.8		2.1	1.9	2.0	2.0	68.0	68.0	68.0	68.0	7.5	5.4	6.7	6.7
China	31.9	32.7	32.4		5.3	5.5	5.6	5.6	70.0	70.0	70.0	70.0	118.4	126.1	126.0	127.4
India	41.9	41.5	41.8		2.5	2.5	2.5	2.6	66.7	66.7	66.7	66.7	70.7	70.0	70.5	73.0
Japan	2.1	2.1	2.1		5.8	6.2	6.2	6.2	72.8	72.8	72.8	72.8	9.0	9.4	9.4	9.4
Philippines	3.5	3.4	3.5		2.6	2.6	2.7	2.7	65.0	65.0	65.0	65.0	6.0	5.8	6.2	6.2
USSR	0.7	0.7	0.7		4.3	3.9	4.0	4.0	65.0	65.0	65.0	65.0	1.9	1.7	1.7	1.7
Vietnam	5.8	5.9	5.9		2.9	3.1	3.0	3.0	65.0	65.0	65.0	65.0	10.9	11.7	11.4	11.4
Others	13.4	13.4	12.7		2.6	2.8	2.8	2.8	66.2	63.8	63.8	63.8	22.9	23.5	23.3	23.0

1/ Hong Kong, Iran, Iraq, Ivory Coast, and Saudi Arabia.

October 1990

Production Estimates and Crop Assessment Division, FAS, USDA



TABLE 6  
Oilseeds Area, Yield, and Production  
World and Selected Countries and Regions

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	Prel.	Proj.		Prel.	1990/91 Proj.			Prel.	1990/91 Proj.		
	1988/89	1989/90	1990/91	1988/89	1989/90	Sept.	Oct.	1988/89	1989/90	Sept.	Oct.
	---Million Hectares---			---Metric Tons Per Hectare---				---Million Metric Tons---			
<u>SOYBEANS</u>											
World	55.78	57.68	55.88	1.71	1.84	1.86	1.87	95.54	105.94	105.18	104.26
United States	23.22	24.10	22.87	1.82	2.17	2.18	2.17	42.15	52.35	49.93	49.63
Total Foreign	32.56	33.59	33.01	1.64	1.60	1.65	1.66	53.39	53.59	55.25	54.64
Maj. Foreign Exporters	16.17	16.33	16.10	1.84	1.84	1.84	1.83	29.70	30.05	30.00	29.50
Argentina	4.00	4.95	5.10	1.63	2.17	2.08	2.06	6.50	10.75	11.00	10.50
Brazil	12.17	11.38	11.00	1.91	1.70	1.73	1.73	23.20	19.30	19.00	19.00
Other Foreign	16.39	17.26	16.91	1.45	1.36	1.47	1.49	23.69	23.54	25.25	25.14
Canada	0.53	0.54	0.50	2.16	2.26	2.60	2.60	1.15	1.22	1.30	1.30
China	8.12	8.06	7.63	1.43	1.27	1.47	1.51	11.65	10.23	11.80	11.50
Eastern Europe	0.56	0.54	0.54	1.20	1.50	1.30	1.30	0.67	0.82	0.70	0.70
EC-12	0.53	0.61	0.61	3.10	3.19	3.21	3.23	1.66	1.95	1.99	1.96
India	1.66	1.90	2.10	0.92	0.89	0.90	0.95	1.53	1.70	1.80	2.00
Indonesia	1.18	1.15	1.25	1.02	0.96	0.96	0.96	1.20	1.10	1.20	1.20
Paraguay	0.85	0.98	0.90	1.90	1.38	1.78	1.78	1.62	1.35	1.60	1.60
USSR	0.76	0.83	0.84	1.16	1.15	1.10	1.10	0.88	0.96	0.92	0.92
Others	2.20	2.65	2.55	1.52	1.60	1.55	1.55	3.35	4.23	3.94	3.96
<u>COTTONSEED</u>											
World	33.70	32.76	33.94	0.96	0.94	0.98	0.99	32.33	30.68	33.35	33.53
United States	4.84	3.86	4.64	1.14	1.10	1.12	1.11	5.50	4.24	5.20	5.14
Total Foreign	28.87	28.90	29.30	0.93	0.91	0.96	0.97	26.83	26.44	28.15	28.39
China	5.53	5.20	5.50	1.27	1.24	1.37	1.37	7.05	6.44	7.55	7.55
India	7.30	7.60	7.80	0.49	0.59	0.56	0.58	3.56	4.49	4.36	4.53
Pakistan	2.51	2.60	2.64	1.14	1.12	1.14	1.14	2.85	2.91	3.01	3.01
USSR	3.43	3.33	3.25	1.46	1.41	1.48	1.48	5.00	4.70	4.80	4.80
Others	10.09	10.17	10.11	0.83	0.78	0.84	0.84	8.36	7.90	8.44	8.51
<u>PEANUTS</u>											
World	19.74	19.46	19.22	1.18	1.11	1.13	1.12	23.24	21.63	21.63	21.54
United States	0.66	0.67	0.71	2.74	2.72	2.29	2.15	1.81	1.81	1.61	1.52
Total Foreign	19.08	18.79	18.51	1.12	1.06	1.09	1.08	21.44	19.82	20.02	20.02
Argentina	0.15	0.18	0.19	1.62	2.06	2.32	2.32	0.24	0.37	0.43	0.43
China	2.91	2.95	3.05	1.95	1.82	1.90	1.90	5.69	5.36	5.80	5.80
India	8.43	8.40	7.90	1.07	0.92	0.94	0.92	9.00	7.70	7.30	7.30
Senegal	0.90	0.79	0.77	0.76	0.93	0.87	0.87	0.69	0.74	0.67	0.67
South Africa	0.19	0.19	0.19	1.24	1.24	1.26	1.26	0.23	0.23	0.24	0.24
Sudan	0.58	0.55	0.55	0.78	0.73	0.73	0.73	0.45	0.40	0.40	0.40
Others	5.92	5.74	5.87	0.87	0.88	0.88	0.88	5.13	5.03	5.18	5.18

CONTINUED



TABLE 6 (Continued)  
Oilseeds Area, Yield, and Production  
World and Selected Countries and Regions

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	1988/89	Prel. 1989/90	Proj. 1990/91	1988/89	Prel. 1989/90	1990/91 Proj. Sept.	Oct.	1988/89	Prel. 1989/90	1990/91 Proj. Sept.	Oct.
<b><u>SUNFLOWERSEED</u></b>	---Million Hectares---			---Metric Tons Per Hectare---				---Million Metric Tons---			
World	14.95	15.66	16.50	1.36	1.38	1.38	1.35	20.33	21.65	22.90	22.28
United States	0.78	0.72	0.75	1.05	1.10	1.46	1.27	0.81	0.80	1.10	0.96
Total Foreign	14.18	14.94	15.74	1.38	1.40	1.38	1.35	19.52	20.85	21.80	21.32
Argentina	2.20	2.80	2.80	1.45	1.36	1.38	1.36	3.20	3.80	4.00	3.80
China	0.83	0.73	0.83	1.42	1.34	1.45	1.45	1.18	0.98	1.20	1.20
EC-12	2.16	2.11	2.54	1.84	1.66	1.72	1.61	3.99	3.50	4.34	4.08
East Europe	1.31	1.29	1.29	1.62	1.87	1.71	1.71	2.13	2.42	2.20	2.20
USSR	4.28	4.46	4.65	1.44	1.59	1.50	1.50	6.16	7.07	7.00	7.00
Others	3.39	3.55	3.63	0.84	0.87	0.85	0.84	2.87	3.09	3.06	3.04
<b><u>RAPESEED</u></b>											
World	17.88	16.92	17.52	1.26	1.28	1.36	1.37	22.53	21.60	23.71	24.00
Total Foreign	17.88	16.92	17.52	1.26	1.28	1.36	1.37	22.53	21.60	23.71	24.00
Canada	3.67	2.90	2.63	1.17	1.07	1.25	1.25	4.31	3.10	3.30	3.30
China	4.94	4.99	5.30	1.02	1.09	1.25	1.25	5.04	5.44	6.60	6.60
EC-12	1.84	1.66	1.95	2.81	2.96	3.01	3.03	5.17	4.92	5.82	5.92
East Europe	0.88	1.00	0.94	2.51	2.65	2.39	2.39	2.20	2.65	2.26	2.26
India	4.87	4.70	4.80	0.86	0.81	0.81	0.83	4.20	3.80	3.80	4.00
Others	1.69	1.66	1.89	0.95	1.02	1.02	1.02	1.61	1.69	1.94	1.92
<b><u>FLAXSEED</u></b>											
World	3.68	3.68	3.76	0.45	0.52	0.61	0.62	1.66	1.91	2.31	2.32
United States	0.09	0.07	0.09	0.45	0.47	0.89	0.89	0.04	0.03	0.08	0.08
Total Foreign	3.59	3.61	3.67	0.45	0.52	0.60	0.61	1.62	1.88	2.22	2.24
Argentina	0.54	0.58	0.59	0.86	0.90	0.88	0.88	0.46	0.52	0.53	0.52
Canada	0.50	0.60	0.72	0.74	0.83	1.22	1.25	0.37	0.50	0.88	0.90
India	1.18	1.20	1.20	0.30	0.33	0.33	0.33	0.35	0.40	0.40	0.40
USSR	1.04	0.87	0.78	0.21	0.26	0.21	0.21	0.22	0.23	0.17	0.17
Others	0.33	0.36	0.37	0.66	0.66	0.67	0.68	0.22	0.24	0.25	0.25
<b><u>MAJOR OILSEEDS</u></b>	<b>145.73</b>	<b>146.15</b>	<b>146.82</b>	<b>1.34</b>	<b>1.39</b>	<b>1.42</b>	<b>1.42</b>	<b>195.64</b>	<b>203.42</b>	<b>209.09</b>	<b>207.94</b>
United States	29.58	29.42	29.08	1.70	2.01	1.99	1.97	50.31	59.24	57.93	57.33
Total Foreign	116.15	116.74	117.74	1.25	1.24	1.28	1.28	145.33	144.18	151.16	150.60
<b><u>COPRA</u></b>	--	--	--	--	--	--	--	4.31	4.57	4.86	4.86
<b><u>PALM KERNEL</u></b>	--	--	--	--	--	--	--	2.91	3.24	3.32	3.32
<b><u>TOTAL OILSEEDS</u></b>	--	--	--	--	--	--	--	<b>202.86</b>	<b>211.23</b>	<b>217.27</b>	<b>216.12</b>
<b><u>PALM OIL 1/</u></b>	--	--	--	--	--	--	--	9.47	10.86	11.21	11.21

1/ Not included in total oilseeds.



TABLE 7

## Cotton Area, Yield, and Production World and Selected Countries and Regions

COUNTRY/REGION	AREA			YIELD				PRODUCTION			
	Prel. 1988/89	Proj. 1989/90	Proj. 1990/91	Prel. 1988/89	1990/91 1989/90	Proj. Sept.	Proj. Oct.	Prel. 1988/89	1990/91 1989/90	Proj. Sept.	Proj. Oct.
	---Million Hectares---			---Kilograms Per Hectare---				---Million 480-Pound Bales---			
World	33.8	32.3	33.6	546	538	560	564	84.6	79.7	86.9	87.0
United States	4.8	3.9	4.6	694	688	691	682	15.4	12.2	14.7	14.6
Total Foreign	28.9	28.4	29.0	521	517	539	544	69.2	67.5	72.1	72.4
Maj. Foreign Exporters	13.5	13.0	13.1	750	728	777	778	46.5	43.6	47.0	47.0
Australia	0.2	0.2	0.3	1,475	1,406	1393	1,393	1.3	1.4	1.6	1.6
Central America 1/	0.1	0.1	0.1	813	879	807	825	0.4	0.3	0.4	0.3
China	5.5	5.2	5.5	751	728	812	812	19.1	17.4	20.5	20.5
Egypt	0.4	0.4	0.4	718	695	742	742	1.4	1.3	1.5	1.5
Mexico	0.3	0.2	0.2	1,209	891	936	936	1.4	0.8	0.9	0.9
Pakistan	2.5	2.6	2.6	568	560	569	569	6.5	6.7	6.9	6.9
Sudan	0.3	0.3	0.2	443	454	456	467	0.6	0.6	0.5	0.5
Turkey	0.7	0.7	0.7	882	851	913	913	3.0	2.8	2.9	2.9
USSR	3.4	3.3	3.1	806	802	827	832	12.7	12.2	12.0	12.0
Major Importers 2/	0.4	0.4	0.4	837	870	884	884	1.7	1.6	1.7	1.7
Other Foreign	15.0	15.0	15.4	306	325	329	336	21.0	22.3	23.5	23.8
Argentina	0.5	0.6	0.6	389	462	473	459	0.9	1.2	1.3	1.4
Brazil	2.4	2.2	2.0	311	300	370	370	3.4	3.0	3.4	3.4
India	7.3	7.6	7.8	247	295	279	290	8.3	10.3	10.0	10.4
Syria	0.2	0.2	0.2	667	930	871	872	0.5	0.7	0.6	0.6
Others	4.7	4.5	4.8	372	348	358	363	8.0	7.1	8.2	8.0

1/ Nicaragua, Guatemala, El Salvador, Honduras, and Costa Rica.

2/ Western Europe, Eastern Europe, Japan, Hong Kong, Republic of Korea, and Taiwan.

October 1990

Production Estimates and Crop Assessment Division, FAS, USDA



TABLE 8

The table below presents a 9-year record of the difference between the October projections and the final estimates. Using world wheat production as an example, changes between the October projection and the final estimate have averaged 10.0 million tons (2.0 percent) and ranged from -26.7 to 5.8 million tons. The October projection has been below the final 5 times and above the final 4 times.

## RELIABILITY OF PRODUCTION PROJECTIONS

COMMODITY AND REGION	PROJECTION AND FINAL ESTIMATES, 1981/82 - 1989/90 1/					
	Difference		Lowest	Highest	Below Final	Above Final
	Average	Average	Difference			
	Percent	--- <i>Million Metric Tons</i> ---			Number of Years 2/	
<i>WHEAT</i>						
World	2.0	10.0	-26.7	5.8	5	4
U.S.	0.5	0.3	-1.2	0.2	6	3
Foreign	2.3	10.0	-26.8	6.0	5	4
<i>COARSE GRAINS 3/</i>						
World	1.3	10.3	-23.8	9.1	6	3
U.S.	2.0	4.0	-10.6	2.8	7	2
Foreign	1.4	7.8	-18.5	7.5	6	3
<i>RICE (Milled)</i>						
World	2.9	9.0	-20.9	3.0	7	1
U.S.	2.9	0.1	-0.2	0.2	6	3
Foreign	2.9	9.0	-21.0	3.1	7	2
<i>SOYBEANS</i>						
World	2.5	2.3	-4.7	4.5	3	6
U.S.	3.4	1.7	-3.2	3.1	3	6
Foreign	4.1	1.7	-3.0	2.2	4	5
			--- <i>Million 480-lb. Bales</i> ---			
<i>COTTON</i>						
World	3.1	2.5	-10.1	3.9	5	4
U.S.	3.6	0.5	-1.4	0.3	6	3
Foreign	3.3	2.3	-10.4	3.6	4	5
<i>UNITED STATES</i>			----- <i>Million Bushels</i> -----			
<i>CORN</i>	3.2	201	-459	224	6	3
<i>SORGHUM</i>	4.0	31	-69	41	5	4
<i>BARLEY</i>	1.9	9	-12	24	5	4
<i>OATS</i>	3.0	12	-18	27	3	5

1/ The final estimate for 1981/82-1988/89 is defined as the first November estimate following the marketing year and for 1989/90 last month's estimate.

2/ May not total nine if projection was the same as the final.

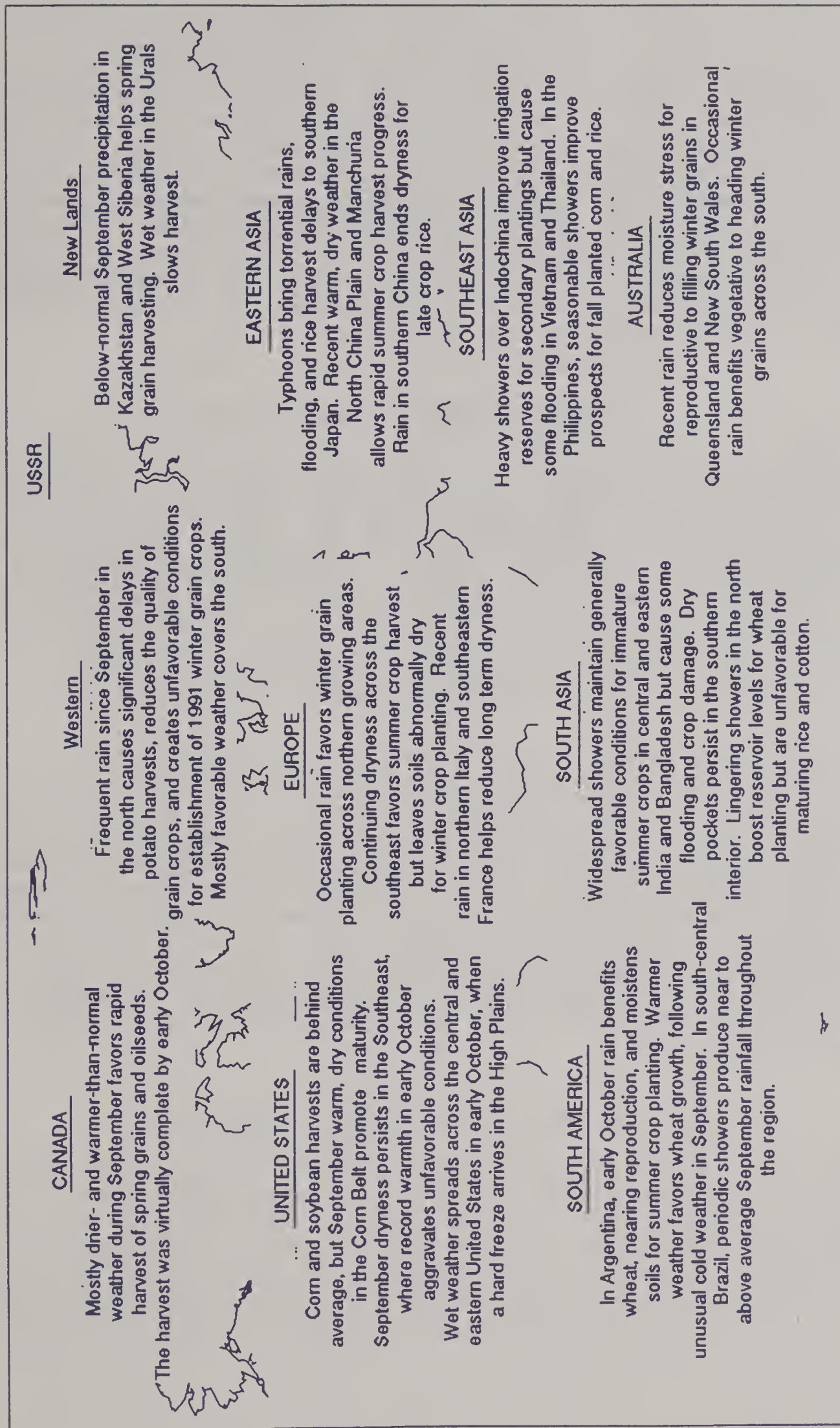
3/ Includes corn, sorghum, barley, oats, rye, millet, and mixed grain.



# WORLD AGRICULTURAL WEATHER HIGHLIGHTS

OCTOBER 11, 1990

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY



(More details are available in the Weekly Weather and Crop Bulletin. Subscription information may be obtained by calling (202) 447-7917.

## WEATHER BRIEFS

### MEXICO: WIDESPREAD RAINFALL CONTINUED

Widespread precipitation continued during September 11 through October 10 throughout much of Mexico. Precipitation has been generally above normal across the country since early June, except for portions of the northeast region. Heavy and timely precipitation did return to the northeast during September and early October, benefiting immature crops there. Precipitation has continued above normal over the eastern Corn Belt, with one beneficial dry period during late September. Corn harvesting has begun and becomes more widespread as October progresses. Rainfall has remained much above normal in the west and northwest, boosted by Pacific tropical storms. Tropical Storm Rachel crossed western and north central Mexico on October 2 and 3, 1990, and brought widespread heavy rain, 50-100 millimeters (mm) and locally more. This precipitation caused some flooding and mud slides, disrupting current harvesting, but increasing northwestern reservoir levels.

### U.S.S.R.: WEATHER AFFECTS HARVEST

Weather during September and early October had mixed effects on the Soviet harvests and winter grain planting. Dry, mild weather has generally favored harvesting in the Ukraine, the Volga Valley and the New Lands. Rain in late September benefited winter grains in the Ukraine, North Caucasus, and lower Volga by improving soil moisture levels. Persistent wetness during September and early October has caused significant delays in potato harvests, reduced the quality of grain crops and interfered with planting of winter grain crops in the Baltic States, Belorussia and the Central Region. In general, 10 to 50 mm of rain has fallen over these regions each week since early September.

### JAPAN: HIT BY A SERIES OF TYPHOONS

Japan, particularly the southern half, was hit by a series of typhoons during September 18 through October 8, 1990. These storms brought high winds and heavy precipitation to Honshu. Typhoon Flo was the strongest at land fall, producing winds of up to 100 knots and 200-500 mm of rain as it crossed central Honshu. Typhoons Gene and Hattie glanced south central Honshu and brought widespread rain generally from 50-100 mm, with isolated down pours of 200 mm from each storm. Flooding occurred and the rice harvest was delayed. Rains from these storms undoubtedly ended the severe drought which plagued Japan since early summer 1990.



## PRODUCTION BRIEFS

### SPAIN: 1989/90 CITRUS CROP AT NEW RECORD

The U.S. agricultural counselor in Madrid reports that the 1989/90 citrus crop is estimated at a record 4.86 million tons. The 1989/90 crop was 17 percent above the June estimate, as damage from heavy rains during harvest (late last year and early this year) was less than expected. Orange production in 1989/90 reached 2.65 million tons, a new record. Tangerine production reached a record 1.46 million tons and lemon output reached 720,000 tons, slightly less than 1988/89. Early indications for the 1990/91 crop, which is now being harvested, point to another large crop.

### EUROPE: WINTER GRAIN PLANTING BEGINS

In northern Europe, planting of winter wheat, barley and rye is well underway. Widespread rain has boosted soil moisture to benefit the crops. Some farmers delayed the start of planting to ensure good soil conditions following an earlier dry spell. In central and eastern Europe, fall plantings have become widespread but dryness in parts of the southeast may prolong fieldwork. Thus far, rain has remained scattered and mostly light across southern France, extending eastward into the Balkans. Southern Europe usually starts planting winter grains in October.

### CHINA: RECORD CORN CROP IN 1990

Corn production in China is expected to set a new record in 1990/91, surpassing the previous record of 79.2 million tons set in 1987/88. Bumper corn harvests have already been reported in Northeast China as well as in Shandong, Henan and Anhui provinces on the North China Plain. Local officials in these provinces, which account for more than 50 percent of total corn production, credit excellent growing and harvesting conditions, a good supply of inputs, and the expanded use of hybrid seed for the bumper crop. Officials also reported an increase in planted area, especially in Liaoning, Jilin and Heilongjiang provinces, where farmers are increasing corn area and decreasing soybean area because of the higher economic returns for corn compared to soybeans in the past year.

### THAILAND: PINEAPPLE ESTIMATE LOWERED

Severe drought in all producing areas has reduced Thailand's 1990 pineapple crop below the early-season projection. Production is expected to reach only 1.5 million tons, 100,000 below the preliminary estimate released in April, and 13 percent less than last year's harvest. Because the lower production volume has sharply reduced deliveries to processing plants, farmgate prices have soared. Current prices for fresh pineapples are fluctuating between U.S.\$87-91 per ton compared to season opening prices of U.S.\$59-63.

### PHILIPPINES: NO CHANGE IN PINEAPPLE FORECAST

The April 1990 forecast for fresh pineapple production in the Philippines remains unchanged at 1.61 million tons. A drought during the latter part of 1989 through April of 1990 adversely affected crop development in the two large plantation areas of Mindanao, both of which practice rainfed cultivation. However, timely rain in early May appears to have brought about a full recovery in crop yields, and boosted the volume harvested to date to a record level in one of the plantation areas. However, gains from this favorable development apparently are being offset by losses from the other main plantation/cannery operation that was recently divided and sold as two separate entities, and is now plagued with numerous manpower and operational problems.

### COSTA RICA: FORESTRY SITUATION

Deforestation is a growing problem in Costa Rica. Commercial forest area is estimated at only 250,000 hectares. Long-term projections indicate that the remaining timber on this land will be completely exhausted by the end of the century, given the domestic industry's growing raw material requirements. Exacerbating this situation is the industry's low utilization rate. The Costa Rican forestry sector is comprised of 168 companies which together have an installed capacity of approximately 1 million cubic meters (CUM) and actual utilization of about 850,000 CUM per annum. Currently, there are 161 sawmills, 2 plywood factories, 1 veneer factory, 1 particleboard plant, 2 match factories and 1 toothpick plant. Only about 54 percent of the annual cut actually reaches these processing facilities. Of this total, barely 47 percent comes out as finished products. The remaining residues are not further processed and are disposed of as waste. In an effort to slow further deterioration within the industry, the Forestry Directorate within the Ministry of Natural Resources has recommended the following measures: the establishment of logging quotas that would include minimum cutting diameters; timely reforestation of all logged areas; greater utilization of native species; implementation of a forest management scheme that provides for the establishment of plantations; technical assistance to improve drying and preservation techniques; incentives for sawmills to establish and manage their own forest lands; and elimination of waste through better use of residual raw materials.

### THAILAND: DEFORESTATION CONTINUES DESPITE LOGGING BAN

Despite the complete ban on logging imposed in 1989, deforestation of Thailand's woodlands appears to be continuing unabated. Natural forest cover has declined from a high of approximately 53 percent of the total land area in 1961, to less than 28 percent today. Forest encroachment and illegal logging are the two most persistent problems facing the Thai Government and its enforcement arm, the Royal Forest Department. The Government recently implemented several short-term measures to deal with these problems. Demarcation trails are being cut around the circumference of forests particularly vulnerable to encroachment in an effort to clearly delineate the boundaries of the protected areas. Additional manpower has been allocated to police the reserves. Nearly 2,000 villagers currently encroaching on forest lands are to be relocated at Government expense. A government endowed foundation is being set up to oversee expenditures for wildlife conservation and protection of natural resources within the forest reserves. No long-term solutions have as yet been proposed.



#### USSR: UNFAVORABLE LIVESTOCK PRODUCTION PROSPECTS

Despite the higher livestock procurement prices and this year's bumper grain crop, the outlook for Soviet livestock production over the next few months is not favorable, according to the U.S. agricultural counselor in Moscow. Soviet winter feed (forage) supplies, as of early September were reported at about 11.7 feed units per standard head--roughly half the level prescribed. By comparison, last year's early November estimate was 17.2 units per head, a level also reported to be low. In a similar vein, reported hay and feed deliveries in the Ukraine had met only 55 percent of the 1990 plan and were one-third below 1989. The poor feed harvest is reportedly due to lack of quality machinery, inefficient harvesting and storage techniques, and poorly organized labor efforts.

A Government attempt to augment supplies of meat in large cities involved announcing significant procurement price increases for livestock effective October 1. The new prices, designed to offset production cost increases from early 1990 removal of some of the subsidies on transportation and other farm inputs, had been scheduled to take effect January 1, 1991. But with the subsequent worsening of meat shortages, some analysts claimed that farms were holding back livestock to take advantage of the coming higher prices. Soviet newspapers noted that in mid-September less than half of Moscow's 1,300 outlets for selling meat had any meat for sale.

#### VENEZUELA: DAIRY PRODUCTION DECLINING

Venezuela's 1990 milk production is forecast at 1.48 million tons, down 12 percent from 1989 according to the U.S. agricultural counselor in Caracas. Dairy production has been hurt by sharply higher feed costs and interest rates, both of which lost their subsidy in the economic restructuring that started in 1989. Farmgate prices for milk have been increased but not enough to offset the higher feed prices. The higher prices for feed have forced many dairy producers to switch to a less intensive, forage based, system of milk production while others are tending to de-emphasize dairy in favor of beef which has somewhat better price prospects. Milk production is forecast to decline another 3 percent in 1991. With lower supplies and higher prices for milk, output of cheese is forecast to decline in both 1990 and 1991. Some commercial cheese producers claim that consumer resistance keeps them from passing on the higher manufacturing costs.

#### THAILAND: RICE PRODUCTION NEAR RECORD

Rice is one of Thailand's most important crops, accounting for 87 percent of the total 1990/91 grain area. The 1990/91 rice crop is estimated at 13.2 million tons milled basis, 5 percent below the 1988/89 record level of 13.9 million. The 1990/91 area is estimated at 10.0 million hectares, slightly above 1988/89 area, but yields have fallen slightly. In 1989/90, a record 10.2 million hectares was harvested, but average yields kept production at an estimated 13.7 million tons.

The main season crop (about 80 percent of total production) is planted from June to August and harvested between November and January. The north, northeast, and central growing regions comprise roughly 30, 35, and 25 percent, respectively, of the main crop and the south accounts for approximately 7 percent. Based on a field survey, the U.S. agricultural attache in Bangkok recently reported that rice production in the northeastern region will be near last year's level. Favorable weather generally prevailed in most of these provinces, although much depends on the weather from here forward. Only minor insect damage was reported. Below normal rainfall in the central provinces reduced reservoir levels, and available irrigation water. Additionally, the attache reported leafhopper damage in the lower north and central regions. Although farmers are trying to control the insects by spraying, in some areas it is simply too late and some fields have been abandoned.

The second season crop, grown mainly as a cash crop, is planted in February and March and harvested during June and July. The central plains accounts for 85 percent of the second season production. Attractive prices during the past two years have led to the proliferation of small irrigation works and the rapid adoption of short-season varieties which raised dry-season production to 15-20 percent of the total output compared with 10-12 percent previously.



African total grain production for 1990/91 is estimated at 83.5 million tons, down 0.9 million or 1 percent from last year and down 8 percent from 1988's record harvest. This year's crop, however, is the continent's third largest. The 1990 summer rainfall season was good, with timely, generous precipitation. Locusts posed no serious threat to grain crops this year, although grasshoppers have caused local damage in West Africa.

Seasonal rainfall in the Sahel is associated with the north-to-south movement of the Inter-Tropical Convergence Zone (ITCZ). During the 1990 season, the ITCZ was late in its northward movement, but rainfall associated with the ITCZ can be characterized as having recovered from a late start to provide generally satisfactory conditions. Areas where inadequate ITCZ rainfall has decreased crop prospects include the eastern countries of Ethiopia and Sudan. Unfavorable winter rainfall in the north decreased crop prospects for Algeria and Morocco.

In North Africa, total grain production for 1990/91 is estimated at 21.5 million tons, up 0.7 million or 3 percent from 1989/90. Egypt harvested a record 12.0 million-ton crop, due to higher estimated yields. Timely rains in Tunisia relieved early-season dryness, boosting wheat and barley production to 1.6 million tons, up from 0.6 million last year. Algeria and Morocco experienced dry conditions, which lowered winter grain (wheat and barley) output.

In East Africa, this year's total grain production is estimated at 19.4 million tons, down slightly from last year. The outlook for total grain production in Sudan is for below-average production of 3.3 million tons, due to a delayed and sporadic rainy season. Grain output this year for Tanzania is estimated down 1.2 million tons to 3.8 million due to reduced harvested area. Recent rains have failed to relieve below-average prospects for Ethiopia's main season (meher) crop, which experienced early-season dryness that led to late planting.

In West Africa, total grain output for 1990/91 is estimated at 21.2 million tons, up 0.7 million or 3 percent from last year's favorable harvest. Following its delayed arrival, the rainy season is now well established in most of the region. Early planted coarse grains in Burkina are now well advanced toward harvest; however, grasshopper infestations in the northern growing areas pose some threat. Despite favorable weather in Liberia, ongoing civil unrest has reduced the country's productive potential.

In Central Africa, total grain production for 1990 is estimated at 2.1 million, down slightly from last year. Cumulative rainfall is below average in southwest Cameroon, reducing crop prospects below last year's near-record levels. Total grain production in Zaire is not expected to surpass the record level of 1989; however, current crop conditions are quite favorable.

In Southern Africa, grain output for 1990/91 is forecast at 19.2 million tons, down 0.7 million or 3 percent from last year. The reduction centers on corn production in South Africa, where 1990 production is forecast at 8.5 million tons versus 9.2 million in 1989/90. The 1990 South African corn crop will be planted during November/December 1990 and harvested in June of next year.

1/ Total grain production is defined in this article as the sum of wheat, coarse grains, and paddy rice. Regions are defined in the accompanying grain production table.

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TABLE 9

## AFRICA: TOTAL GRAIN PRODUCTION

(1000 Metric Tons)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<i>North Africa</i>										
Algeria	2,186	1,525	1,289	3,051	3,089	2,404	2,076	1,037	1,606	1,492
Egypt	8,162	8,518	8,689	8,563	8,615	9,335	9,576	9,943	10,977	12,020
Libya	244	231	191	200	200	240	290	210	220	225
Morocco	2,077	4,872	3,529	3,723	4,678	7,781	4,291	7,928	7,378	6,154
Tunisia	1,233	1,255	922	1,024	2,067	607	1,898	284	621	1,601
Total	13,902	16,401	14,620	16,561	18,649	20,367	18,131	19,402	20,802	21,492
<i>East Africa</i>										
Burundi	420	309	320	274	320	337	338	338	318	320
Ethiopia	4,240	5,277	4,599	3,520	4,220	4,625	4,100	5,540	4,390	4,648
Kenya	3,186	2,923	2,562	2,073	3,331	3,433	2,993	3,465	3,410	3,419
Malawi	1,279	1,448	1,402	1,432	1,388	1,330	1,252	1,380	1,430	1,485
Rwanda	281	304	328	255	324	272	266	274	294	224
Somalia	372	392	358	495	653	605	595	644	517	627
Sudan	3,953	2,429	2,299	1,357	4,132	3,734	1,651	5,140	2,920	3,345
Tanzania	2,528	2,556	2,938	3,208	3,630	3,755	4,066	4,030	4,904	3,752
Uganda	1,142	1,321	1,365	1,426	1,500	1,545	1,585	1,520	1,430	1,625
Total	17,401	16,959	16,171	14,040	19,498	19,636	16,846	22,331	19,613	19,445
<i>West Africa/Sahel</i>										
Benin	358	347	349	476	522	491	393	565	546	504
Burkina	1,279	1,205	1,102	1,136	1,577	1,903	1,797	1,941	1,914	1,761
Chad	527	474	489	306	700	707	570	776	673	648
Gambia, The	94	104	61	87	123	118	96	111	136	113
Ghana	725	544	308	912	772	898	959	1,058	1,221	1,002
Guinea	463	524	510	531	572	660	650	672	660	596
Guinea-Bissau	50	95	78	105	115	120	154	157	224	219
Ivory Coast	841	930	812	1,098	1,083	1,043	1,081	1,288	1,365	1,326
Liberia	245	267	289	298	288	295	300	297	280	250
Mali	1,112	1,013	1,458	1,087	1,361	1,778	1,623	2,174	1,853	1,901
Mauritania	82	54	34	31	53	137	152	174	167	151
Niger	1,681	1,691	1,730	1,070	1,837	1,818	1,421	2,378	1,711	2,021
Nigeria	9,526	10,018	7,568	9,603	9,333	9,512	7,657	9,383	9,061	8,764
Senegal	924	772	522	705	1,243	758	1,050	864	1,088	1,040
Sierra Leone	533	518	561	497	529	549	567	541	546	579
Togo	289	305	292	434	368	357	361	485	475	370
Total	18,729	18,861	16,163	18,376	20,476	21,144	18,831	22,864	21,920	21,245
<i>Central Africa</i>										
Cameroon	839	939	862	727	943	910	880	901	927	893
Central African Rep.	101	90	80	95	105	95	122	133	125	125
Zaire	971	982	1,038	1,040	1,066	1,042	1,097	1,166	1,146	1,099
Total	1,911	2,011	1,980	1,862	2,114	2,047	2,099	2,200	2,198	2,117
<i>Southern Africa</i>										
Angola	328	326	356	336	332	323	297	340	292	273
Lesotho	170	123	123	118	167	134	198	120	155	182
Madagascar	2,132	2,218	2,279	2,272	2,318	2,383	2,285	2,355	2,431	2,514
Mozambique	503	613	537	563	603	613	484	544	587	620
South Africa, Rep.	11,160	6,901	6,922	11,215	10,537	10,240	11,032	16,552	12,051	11,738
Zambia	1,322	854	1,054	1,001	1,263	1,325	1,152	2,004	1,812	1,210
Zimbabwe	2,261	1,312	1,692	3,282	3,058	1,559	2,784	2,485	2,595	2,625
Total	17,876	12,347	12,963	18,787	18,278	16,577	18,232	24,400	19,923	19,162
TOTAL AFRICA	69,819	66,579	61,897	69,626	79,015	79,771	74,139	91,197	84,456	83,461



TABLE 10

**AFRICA: TOTAL GRAIN AREA**  
(1000 Hectares)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<i>North Africa</i>										
Algeria	3509	2568	2224	3049	3127	2872	2754	1807	2358	2333
Egypt	2002	2024	1960	1936	1890	2014	2007	1940	2105	2185
Libya	448	583	560	580	580	590	610	600	580	580
Morocco	4326	4238	4652	4456	4774	5170	5049	5297	5490	5649
Tunisia	1226	1109	1563	1481	1855	782	1611	451	970	1697
Total	11511	10522	10959	11502	12226	11428	12031	10095	11503	12444
<i>East Africa</i>										
Burundi	338	297	295	315	300	315	320	315	315	320
Ethiopia	3217	3573	3511	3405	3480	3480	3550	3655	3605	3610
Kenya	2179	2064	2136	1994	2243	2254	2045	2265	2285	2307
Malawi	1142	1242	1211	1225	1165	1216	1201	1200	1200	1221
Rwanda	240	287	302	235	255	260	250	220	247	215
Somalia	576	426	627	767	775	777	716	736	736	731
Sudan	5316	4945	5042	4684	6992	6327	4157	7107	4893	5807
Tanzania	2490	2415	2681	2078	3120	3285	3279	3465	3570	2802
Uganda	730	815	843	970	880	870	885	890	890	925
Total	16228	16064	16648	15673	19210	18784	16403	19853	17741	17938
<i>West Africa/Sahel</i>										
Benin	545	540	581	600	618	606	567	659	643	642
Burkina	2167	2132	2159	2170	2339	2230	2574	2760	2609	2590
Chad	979	818	818	835	1051	1175	1028	1081	1074	1074
Gambia, The	74	82	55	75	105	92	86	90	114	102
Ghana	911	822	835	993	964	1040	916	1070	1201	1095
Guinea	685	610	589	754	761	767	783	776	780	640
Guinea-Bissau	38	143	90	145	140	140	165	165	295	295
Ivory Coast	922	961	1017	1106	1055	1211	1240	1353	1414	1390
Liberia	215	229	225	225	230	233	243	240	220	200
Mali	1682	1577	1710	1551	1655	2044	1865	2022	1910	2015
Mauritania	153	151	111	112	89	147	157	200	179	165
Niger	4041	4244	4267	4154	4341	4378	4386	4977	4480	4680
Nigeria	13580	13707	13384	9116	10615	10867	10045	10775	10590	10410
Senegal	976	1145	907	1151	1517	1023	1247	1214	1277	1279
Sierra Leone	428	455	455	430	398	398	403	378	388	411
Togo	314	296	328	545	484	460	512	525	492	372
Total	27710	27912	27531	23962	26362	26811	26217	28285	27666	27360
<i>Central Africa</i>										
Cameroon	969	990	935	685	965	920	955	935	936	919
Central African Rep.	207	183	158	196	208	175	220	225	220	220
Zaire	1135	1164	1156	1168	1180	1175	1184	1407	1446	1433
Total	2311	2337	2249	2049	2353	2270	2359	2567	2602	2572
<i>Southern Africa</i>										
Angola	731	636	632	618	588	576	579	577	557	540
Lesotho	200	174	127	115	130	132	185	132	142	160
Madagascar	1313	1315	1294	1321	1310	1320	1330	1340	1365	1385
Mozambique	943	1018	953	968	1018	1018	968	962	992	1003
South Africa, Rep.	6729	6786	6617	6701	6896	6838	6282	6544	6266	6136
Zambia	1213	675	767	740	824	715	736	850	1024	866
Zimbabwe	2055	1923	1919	1918	1807	1658	1821	1808	1775	1742
Total	13,184	12,527	12,309	12,381	12,573	12,257	11,901	12,213	12,121	11,832
<b>TOTAL AFRICA</b>	<b>70,944</b>	<b>69,362</b>	<b>69,696</b>	<b>65,567</b>	<b>72,724</b>	<b>71,550</b>	<b>68,911</b>	<b>73,013</b>	<b>71,633</b>	<b>72,146</b>



TABLE 11

**AFRICA: TOTAL GRAIN YIELDS**  
(Metric Tons/Hectare)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<i>North Africa</i>										
Algeria	0.62	0.59	0.58	1.00	0.99	0.84	0.75	0.57	0.68	0.64
Egypt	4.08	4.21	4.43	4.42	4.56	4.64	4.77	5.13	5.21	5.50
Libya	0.54	0.40	0.34	0.34	0.34	0.41	0.48	0.35	0.38	0.39
Morocco	0.48	1.15	0.76	0.84	0.98	1.51	0.85	1.50	1.34	1.09
Tunisia	1.01	1.13	0.59	0.69	1.11	0.78	1.18	0.63	0.64	0.94
Total	1.21	1.56	1.33	1.44	1.53	1.78	1.51	1.92	1.81	1.73
<i>East Africa</i>										
Burundi	1.24	1.04	1.08	0.87	1.07	1.07	1.06	1.07	1.01	1.00
Ethiopia	1.32	1.48	1.31	1.03	1.21	1.33	1.15	1.52	1.22	1.29
Kenya	1.46	1.42	1.20	1.04	1.49	1.52	1.46	1.53	1.49	1.48
Malawi	1.12	1.17	1.16	1.17	1.19	1.09	1.04	1.15	1.19	1.22
Rwanda	1.17	1.06	1.09	1.09	1.27	1.05	1.06	1.25	1.19	1.04
Somalia	0.65	0.92	0.57	0.65	0.84	0.78	0.83	0.88	0.70	0.86
Sudan	0.74	0.49	0.46	0.29	0.59	0.59	0.40	0.72	0.60	0.58
Tanzania	1.02	1.06	1.10	1.54	1.16	1.14	1.24	1.16	1.37	1.34
Uganda	1.56	1.62	1.62	1.47	1.70	1.78	1.79	1.71	1.61	1.76
Total	1.07	1.06	0.97	0.90	1.01	1.05	1.03	1.12	1.11	1.08
<i>West Africa/Sahel</i>										
Benin	0.66	0.64	0.60	0.79	0.84	0.81	0.69	0.86	0.85	0.79
Burkina	0.59	0.57	0.51	0.52	0.67	0.85	0.70	0.70	0.73	0.68
Chad	0.54	0.58	0.60	0.37	0.67	0.60	0.55	0.72	0.63	0.60
Gambia, The	1.27	1.27	1.11	1.16	1.17	1.28	1.12	1.23	1.19	1.11
Ghana	0.80	0.66	0.37	0.92	0.80	0.86	1.05	1.08	1.02	0.92
Guinea	0.68	0.86	0.87	0.70	0.75	0.86	0.83	0.87	0.85	0.93
Guinea-Bissau	1.32	0.66	0.87	0.72	0.82	0.86	0.93	0.95	0.76	0.74
Ivory Coast	0.91	0.97	0.80	0.99	1.03	0.86	0.87	0.95	0.97	0.95
Liberia	1.14	1.17	1.28	1.32	1.25	1.27	1.23	1.24	1.27	1.25
Mali	0.66	0.64	0.85	0.70	0.82	0.87	0.87	1.08	0.97	0.94
Mauritania	0.54	0.36	0.31	0.28	0.60	0.93	0.97	0.87	0.93	0.92
Niger	0.42	0.40	0.41	0.26	0.42	0.42	0.32	0.48	0.38	0.43
Nigeria	0.70	0.73	0.57	1.05	0.88	0.88	0.76	0.87	0.86	0.84
Senegal	0.95	0.67	0.58	0.61	0.82	0.74	0.84	0.71	0.85	0.81
Sierra Leone	1.25	1.14	1.23	1.16	1.33	1.38	1.41	1.43	1.41	1.41
Togo	0.92	1.03	0.89	0.80	0.76	0.78	0.71	0.92	0.97	0.99
Total	0.68	0.68	0.59	0.77	0.78	0.79	0.72	0.81	0.79	0.78
<i>Central Africa</i>										
Cameroon	0.87	0.95	0.92	1.06	0.98	0.99	0.92	0.96	0.99	0.97
Central African Rep.	0.49	0.49	0.51	0.48	0.50	0.54	0.55	0.59	0.57	0.57
Zaire	0.86	0.84	0.90	0.89	0.90	0.89	0.93	0.83	0.79	0.77
Total	0.83	0.86	0.88	0.91	0.90	0.90	0.89	0.86	0.84	0.82
<i>Southern Africa</i>										
Angola	0.45	0.51	0.56	0.54	0.56	0.56	0.51	0.59	0.52	0.51
Lesotho	0.85	0.71	0.97	1.03	1.28	1.02	1.07	0.91	1.09	1.14
Madagascar	1.62	1.69	1.76	1.72	1.77	1.81	1.72	1.76	1.78	1.82
Mozambique	0.53	0.60	0.56	0.58	0.59	0.60	0.50	0.57	0.59	0.62
South Africa, Rep.	1.66	1.02	1.05	1.67	1.53	1.50	1.76	2.53	1.92	1.91
Zambia	1.09	1.27	1.37	1.35	1.53	1.85	1.57	2.36	1.77	1.40
Zimbabwe	1.10	0.68	0.88	1.71	1.69	0.94	1.53	1.37	1.46	1.51
Total	1.36	0.99	1.05	1.52	1.45	1.35	1.53	2.00	1.64	1.62
<b>TOTAL AFRICA</b>	<b>0.98</b>	<b>0.96</b>	<b>0.89</b>	<b>1.06</b>	<b>1.09</b>	<b>1.11</b>	<b>1.08</b>	<b>1.25</b>	<b>1.18</b>	<b>1.16</b>



TABLE 12

**AFRICA: TOTAL GRAIN PRODUCTION INDICES**  
(1976-1980 Average = 100)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<i>North Africa</i>										
Algeria	108	75	63	150	152	118	102	51	79	73
Egypt	103	107	109	108	108	117	120	125	138	151
Libya	113	107	89	93	93	112	135	98	102	105
Morocco	48	113	82	86	108	180	99	183	171	142
Tunisia	129	131	96	107	216	63	198	30	65	167
Total	90	106	94	107	120	132	117	125	134	139
<i>East Africa</i>										
Burundi	145	107	111	95	111	117	117	117	110	111
Ethiopia	109	135	118	90	108	119	105	142	113	119
Kenya	125	114	100	81	130	134	117	136	134	134
Malawi	105	119	115	118	114	109	103	113	118	122
Rwanda	114	123	133	103	131	110	108	111	119	91
Somalia	152	161	147	203	268	248	244	264	212	257
Sudan	149	92	87	51	156	141	62	194	110	126
Tanzania	122	123	142	155	175	181	196	195	237	181
Uganda	82	95	98	103	108	111	114	109	103	117
Total	120	116	111	96	134	135	116	153	135	134
<i>West Africa/Sahel</i>										
Benin	100	97	98	133	146	138	110	158	153	141
Burkina	113	107	97	100	139	168	159	172	169	156
Chad	86	78	80	50	115	116	93	127	110	106
Gambia, The	165	182	107	153	216	207	168	195	239	198
Ghana	114	86	48	143	121	141	151	166	192	158
Guinea	90	102	99	104	112	129	127	131	129	116
Guinea-Bissau	114	216	177	239	261	273	350	357	509	498
Ivory Coast	102	112	98	133	131	126	131	156	165	160
Liberia	96	105	114	117	113	116	118	117	110	98
Mali	99	90	129	96	121	158	144	193	164	169
Mauritania	216	142	89	82	139	361	400	458	439	397
Niger	111	112	114	71	122	120	94	157	113	134
Nigeria	105	111	84	106	103	105	85	104	100	97
Senegal	131	109	74	100	176	107	149	122	154	147
Sierra Leone	133	130	140	124	132	137	142	135	137	145
Togo	106	112	107	159	135	131	132	178	174	136
Total	107	108	92	105	117	121	107	130	125	121
<i>Central Africa</i>										
Cameroon	96	108	99	83	108	104	101	103	106	102
Central African Rep.	158	141	125	148	164	148	191	208	195	195
Zaire	120	122	129	129	132	129	136	145	142	136
Total	110	115	114	107	121	117	120	126	126	121
<i>Southern Africa</i>										
Angola	71	70	77	72	71	69	64	73	63	59
Lesotho	76	55	55	52	74	60	88	53	69	81
Madagascar	98	102	105	104	107	110	105	108	112	116
Mozambique	87	106	93	98	105	106	84	94	102	108
South Africa, Rep.	84	52	52	85	79	77	83	125	91	89
Zambia	154	100	123	117	147	155	134	234	211	141
Zimbabwe	101	59	76	147	137	70	125	111	116	118
Total	90	62	66	95	92	84	92	123	101	97
<b>TOTAL AFRICA</b>	<b>101</b>	<b>96</b>	<b>90</b>	<b>101</b>	<b>114</b>	<b>115</b>	<b>107</b>	<b>132</b>	<b>122</b>	<b>121</b>

## COTTON PRODUCTION BY MAJOR PRODUCERS

World cotton production for 1990/91 is projected at 87.0 million bales, well above the 79.7 million-bale crop of last year. More than half the increase will come from the World's two top producers, China and the United States. This article will focus on the top seven producing nations: China, United States, Soviet Union, India, Pakistan, Brazil and Turkey. Countries are ranked based on estimated 1990/91 production. Each country produces in excess of 2.5 million 480-pound bales annually. Together, they will produce an estimated 70.6 million bales, or 81 percent of world cotton output.

### CHINA

China, the largest cotton producer in the world, grows almost a quarter of global output. Production for 1990/91 is estimated at 20.5 million bales, with yields well above the world average. About 60 percent of China's cotton is grown in the North China Plain, especially in Shandong, Henan, and Hebei provinces. The remainder of the crop is grown in the northwest and the Yangtze River Valley, where yields are higher than in the north because of a longer growing season. The bulk of China's cotton is of medium-length varieties, although a small amount of long and extra-long staple cotton (ELS) is grown under irrigation. Most cotton varieties are planted from mid-February through mid-June and harvested from August through November. ELS cotton is sown in the spring and harvested from late fall through early February. Much of the cotton is double-cropped with winter wheat or rapeseed, while inter-planting with corn or other autumn crops is common. Because the crop is hand-picked, the growing and harvesting periods can be extended as weather permits.

The Government of China made a strong effort to expand cotton production for the 1990/91 harvest by raising support prices and furnishing adequate supplies of agricultural inputs at subsidized prices. It also promoted scientific research and technological support for cotton producers, irrigation projects, and the opening of new areas to cotton cultivation. Local governments offered their own incentives, such as subsidized inputs to assist cotton producers. In response to these incentives, farmers planted an estimated 5.5 million hectares in 1990, up 300,000 hectares from the year before. The weather was very favorable during the early part of this year's growing season, but problems developed later in the summer. Flooding was reported in the Yangtze and Yellow River valleys, and a series of typhoons struck the east coast of China in August just as the bolls were opening, possibly causing significant losses in both quantity and quality. In addition, boll weevil infestation in Hebei and drought in Hunan and Hubei may have reduced cotton production. Despite these problems, yields are still expected to be higher than last year due to good early-season weather, additional inputs, and better management. The weather in most cotton areas has been favorable since the middle of September and the harvest is under way.



## UNITED STATES

The United States is currently the second largest cotton producer in the world. Previously, the United States was the world's leader in cotton output. However, since 1983/84, it has been consistently surpassed by China and currently contends with the Soviet Union for the number two position. Over the past 10 years, the U.S. annual production averaged 12.5 million bales. Production in 1990/91 is estimated at 14.6 million bales, well above last year's 12.2 million. Cotton is mostly grown in 14 states--Alabama, Arizona, Arkansas, California, Georgia, Louisiana, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. Minor areas include Florida, Kentucky, Nevada, and Virginia. The cultivating, harvesting, and handling of cotton is done mechanically. The crop is grown under both irrigated and non-irrigated conditions. Approximately 45 percent of the planted acreage is in Texas.

Two principal groups of cotton are of commercial importance: Upland cotton (Gossypium hirsutum) and American Pima cotton (Gossypium barbadense). Cotton planting in the United States begins in February in the southern part of the cotton belt and proceeds northward. At the northern edge of the Belt and at higher elevations, planting usually is completed by the early part of June. Weather conditions have varied considerably this year from drought in Texas and severe floods in the southeast in the earlier part of the growing season to wet conditions at harvest. This has occurred from Texas to the southeast, creating concerns over reduced yield and quality.

## USSR

The Soviet Union ranks behind China and the United States in cotton production. Cotton is grown only under irrigation in five Soviet republics of Central Asia--Uzbekistan, Turkmenistan, Tadzhikistan, Kazakhstan, and Kirgizia and in Azerbaidzhan of the Transcaucasian region. Historically, Uzbekistan has accounted for approximately two-thirds of total output. Medium-staple cotton varieties account for the bulk of total production. However, since the early 1980's there has been a concerted effort to expand the production of long-staple cotton. Uzbekistan, Turkmenistan, and Tadzhikistan are major producers of this type of cotton.

Production for 1990/91 in the USSR is estimated at 12.0 million bales, down nearly 2 percent from last year. The area planted to cotton is around 3.1 million hectares, down 5 percent from last year as food and feed crops are being planted in the place of cotton. The increase in the production of food and feed crops is necessary to enhance local food supplies and improve soil and water conservation practices. Efforts are being made to offset the drop in cotton area through improvement of yields. Harvest is currently under way in all of the southern republics.

## INDIA

India is currently the fourth largest producer of cotton in the world. It has the largest area under cotton in the world, amounting to roughly 23 percent of the world total in 1990/91. Yields are among the world's lowest, estimated at only 290 kilograms per hectare. Because of this, India will contribute just 12 percent of world lint output this year. India grows more than 68 varieties of cotton, and is the world leader in plantings of cotton hybrids. It has primarily focused on production of superior medium-staple and superior long-staple cotton in the past decade, but also grows long-staple, medium-staple, and short-staple cotton. A general shortage of medium-staple cotton for blending in the textile industry has led to additional area being devoted to medium-staple varieties in northern India's irrigated growing zone. Cotton is produced in nearly every state of India, with cultivating and harvesting operations staggered throughout the entire year. With only 20 percent of total area under irrigation, the summer monsoon plays a key role in affecting cotton productivity and crop size in most growing areas. The 1990/91 monsoon season has been mixed, but generally favorable for the current cotton crop. Rainfall deficiencies have occurred in important growing areas of Gujarat and Andhra Pradesh, but reports elsewhere indicate excellent crop conditions. The 1990/91 output is forecast at 10.4 million bales, up nearly 100,000 bales from last year's record harvest. Harvest will begin in October and November in the highly productive northern growing region of Punjab, Haryana, and Rajasthan states.

## PAKISTAN

Pakistan is currently the fifth largest producer of cotton in the world. It will account for about 8 percent of world cotton area, as well as 8 percent of world lint production in 1990/91. Pakistan's cotton crop is well insulated from rainfall deficiencies, with nearly all cotton acreage under irrigation in the vast Indus River plain. It's irrigation resources have enabled the country to achieve roughly double the average cotton yield of it's neighbor India, with 1990/91 yields forecast at 569 kilograms per hectare. Pakistan grows primarily upland cotton varieties, of medium and medium-long staple length. Planting operations extend from April to June, with harvest beginning in August in southern Pakistan and finishing in northern Punjab in December.

Cotton cultivation in Pakistan has expanded considerably in the past ten years, with harvested area growing by roughly 18 percent. The doubling of cotton output since 1980 has been fueled by the growing importance of cotton in the country's agricultural export market. In the past several years, a growing domestic textile manufacturing industry has dramatically driven up demand for locally produced cotton, impinging on the availability of raw cotton export. The competition between cotton lint exporters and the textile industry has led to a healthy price environment for growers. Cotton returns out-paced all other crops in the Punjab in 1989/90, and were only slightly below the level of sugarcane in Sind Province. The favorable domestic market for cotton likely will continue to spur larger production in the foreseeable future. Pakistan is cultivating a record cotton area this season, at an estimated level of 2.6 million hectares. Cotton production is also expected to be a record in at 6.9 million bales.



## BRAZIL

Brazil is currently the sixth largest cotton producer in the world and the largest producer in South America. Cotton production in 1990/91 is forecast to reach 3.4 million bales, 12 percent above last year. Area is currently forecast at 2.0 million hectares, 200,000 hectares below 1989/90. The area devoted to cotton is almost entirely determined by the relative price of competing crops and the amount of credit made available by the government. Some debate exists over what impact the government's recently announced agricultural policy package will have on planted area this year. Several trade sources are forecasting 5 to 15 percent increases in 1990/91 planted area in the center-south where planting is currently underway. This outlook is based on reports that farmers will respond to favorable cotton prices and the relatively unfavorable outlook for soybeans. However, conditions also favored cotton last year, when area ultimately fell short of initial estimates due to the lack of available credit and its high cost.

Brazilian cotton production is concentrated almost entirely in two distinct growing regions. The center-south region encompasses Sao Paulo, Parana and the neighboring states of Goias, Mato Grosso, and Minas Gerais. This region is responsible for 75 to 85 percent of total cotton production, with the northeast growing region producing the remaining 15 to 25 percent. A center-south crop, planted from September to November and harvested from February to May, combined with a northeast crop harvested from July to January of the previous year, comprises one crop year. Producers in the northeastern growing region use low cost production practices. Perennial arboreal or tree cotton is grown over a five year cycle. Fields are small, yields are poor, and input utilization is negligible. Crop losses due to dry conditions and boll weevil infestations are heavy. In the center-south, where annual (herbaceous) cotton is produced, planting is mechanized, crop rotations are practiced, and high input utilization is common. There is no irrigated production in either growing region. Brazilian producers almost exclusively grow U.S. upland varieties.

## TURKEY

Turkey is the seventh largest cotton producer in the world, producing 3 percent of the world's total. The cotton growing areas are Cukurova and Southeast Anatolia, the Aegean region in Western Anatolia, and Antalya, located in Southern Anatolia. In Cukurova, the largest cotton growing area, planting occurs between April and May, and the interval between planting and boll opening is approximately 150 days. Harvest occurs between August 15 and October 30. In the Antalya, the only region not totally irrigated, the average annual rainfall is enough to enable cotton to be grown with little irrigation. Planting in Antalya occurs between April 20 and May 20, and the interval between planting and boll opening is approximately 115 days. Harvest occurs between October 5 and November 25.

In the mid-1980's, 75 percent of the Turkish cotton area was planted with the cotton variety Cukurova 1518, 15 percent with Carolina Queen, and 10 percent with Deltapine 61. Currently, the high-yielding variety Nazilla has been rapidly replacing older varieties in the Aegean region. Cukurova 1518 has a staple length of 29-30 mm, Carolina Queen's is 26-28 mm, Deltapine 61 has a staple length of 29-30 mm, and Nazilla has a staple length of 28-29 mm. Cotton

production for 1990/91 is projected at 2.9 million bales, slightly more than last year's production but 5 percent less than the record crop of 1988/89. Area is forecast to decrease 6 percent while the yield is expected to increase 7 percent. Rains following seeding necessitated replanting in some locations, but gave an excellent start to the crop. Continued rains throughout the cotton growing belt created optimal conditions for plant growth. The Turkish government is encouraging farmers to use high yielding seed and practice proper cultivation techniques for higher yields. Seeds and fertilizer are subsidized but prices of chemicals, farm tools, and machinery are determined by market forces.

#### COTTON MARKETING YEAR 1990/91

	480-LB BALES 1000	% OF PROD.	YIELD KG PER HECTARE	LINT PROD. MT. 1000	AREA HAR. HECT. 1000	% OF AREA
WORLD	86,996	100.0	564.6	18,979	33,613	100.0
TOP 7 PRODUCERS	70,600	81.2	582.2	15,371	26,404	78.6
China (Mainland)	20,500	23.6	811.5	4,463	5,500	16.4
United States	14,550	16.7	682.2	3,168	4,644	13.8
USSR	12,000	13.8	832.1	2,613	3,140	9.3
India	10,400	12.0	290.3	2,264	7,800	23.2
Pakistan	6,900	7.9	569.1	1,502	2,640	7.9
Brazil	3,400	3.9	370.1	740	2,000	6.0
Turkey	2,850	3.3	912.5	621	680	2.0
OTHER	16,396	18.8	495.2	3,570	7,209	21.4

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## DECIDUOUS FRUIT AND TABLE GRAPES

APPLES: Northern Hemisphere apple production for the 1990/91 season is forecast at 18,058,900 tons, marginally below the 1989/90 harvest. The North American crop is expected to be 4 percent smaller than a year ago due to reduced prospects in Canada and the United States resulting from variable weather conditions during the pollination and bloom stages. In Europe, nearly all apple producing countries experienced early-season losses when a severe April freeze hit while apple trees were in full blossom. A subsequent dry spell intensified the damage to both yields and quality. Although preliminary assessments indicate that the combined impact of the freeze and subsequent drought will sharply lower output throughout most of Europe, reportedly, several of the large producers have been able to compensate for the weather-induced losses by harvesting bumper late-season crops. Prospects for the 1990/91 season in Asia are mixed. While the Japanese forecast of 1,069,000 tons is potentially the largest volume harvested in the last 20 years, weather-induced yield reductions are expected to cut production in Taiwan by one-third.

PEARS: Pear production in the Northern Hemisphere is expected to total 4,386,000 tons, slightly above the 1989/90 volume. As with apples, losses caused by the freeze and excessively dry weather sharply reduced most of Europe's 1990/91 pear crops. The two large southern European producers, Italy and Turkey, as well as Norway and Denmark in the north, escaped a significant amount of damage and offset losses elsewhere on the Continent. Of the Northern Hemisphere producers, only the United States and Japan can boast of nearly ideal growing conditions during the 1990/91 season. In North America, a potential record crop in the United States should more than offset projected shortfalls in Canada and Mexico where production continues to decline. In Japan, the combination of several beneficial weather factors and the growing popularity of Japanese sand pears, is expected to boost the 1990/91 harvest to 461,000 tons.

STONE FRUITS: World commercial production of apricots for 1990 is currently estimated at 1,180,200 tons, 7 percent below a year ago. Peach and nectarine production is expected to be down only 3 percent--to 6,143,700 tons. The greatest loss on the season is projected for cherries, down an estimated 17 percent from last year. Late-season assessments indicate 1990 was a much better year for stone fruit crops in the Southern Hemisphere than in the Northern Hemisphere. In the Southern Hemisphere, Chile continues to gain ground with probable record crops of cherries, peaches and nectarines and 14,700 tons of apricots, equivalent to the record 1986 crop. Greece is the only Northern Hemisphere country forecast to harvest larger crops of all three commodities.

TABLE GRAPES: Although a 1990 forecast is not yet available for the United States, preliminary reports indicate Northern Hemisphere production will decline for the fourth consecutive season. Italy's crop, the largest in the Hemisphere, is expected to plummet to 1,390,000 tons--the lowest volume harvested since 1982. Dry weather reportedly diminished output in the United States and Greece. Record table grape crops in Argentina, Chile and South Africa counterbalanced the downturn in the Northern Hemisphere.

TABLE 13

WORLD COMMERCIAL APPLE PRODUCTION  
(1,000 Metric Tons)

	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
<b>NORTHERN HEMISPHERE</b>										
<b>NORTH AMERICA:</b>										
Canada	422.4	477.6	484.9	434.4	478.6	388.2	505.9	500.7	467.7	460.0
Mexico	280.0	394.4	302.4	486.3	442.8	628.9	615.4	624.3	473.9	493.2
United States	3,517.0	3,684.1	3,800.4	3,775.7	3,589.9	3,564.8	4,872.5	4,141.7	4,520.3	4,296.4
Total	4,219.4	4,556.1	4,587.7	4,696.4	4,511.3	4,581.9	5,993.8	5,266.7	5,461.9	5,249.6
<b>EUROPEAN COMMUNITY:</b>										
Bel-Lux	133.7	270.3	203.4	230.9	221.1	269.6	236.3	271.6	322.4	227.6
Denmark	43.3	119.5	77.2	124.4	95.1	93.0	46.5	90.2	90.0	95.0
France	1,502.2	1,977.5	1,574.9	2,004.8	1,793.0	1,867.3	1,985.4	1,924.0	1,848.0	1,916.4
Germany, F.R.	883.8	2,637.1	1,313.1	1,799.3	1,409.7	2,180.1	1,077.4	2,467.0	1,726.5	1,958.4
Greece	300.0	265.0	312.0	321.0	256.5	315.5	288.8	269.1	264.3	296.0
Italy	1,773.5	2,642.2	2,056.8	2,240.5	2,012.0	2,019.5	2,273.0	2,442.5	1,902.0	2,014.0
Netherlands	325.0	490.0	403.0	431.0	300.0	445.0	340.0	383.0	417.0	333.0
Spain	1,007.9	860.4	1,012.3	969.5	988.1	828.6	970.9	828.2	757.0	620.9
United Kingdom	227.1	340.3	292.5	315.6	273.1	311.4	263.7	234.4	416.2	249.0
Total	6,196.5	9,602.3	7,245.2	8,437.0	7,348.6	8,330.0	7,482.0	8,910.0	7,743.4	7,710.3
<b>OTHER EUROPE:</b>										
Austria	185.5	339.5	263.0	276.3	240.8	283.2	205.9	295.7	255.1	254.3
Hungary	1,156.0	1,278.0	1,140.6	1,088.2	953.6	1,252.9	1,064.4	1,130.8	959.1	950.0
Norway	53.8	43.7	50.6	47.4	63.7	32.5	46.4	52.0	69.0	50.4
Sweden	88.6	97.4	98.7	90.3	92.8	95.6	70.6	90.0	100.8	70.0
Switzerland	133.0	209.0	134.7	188.7	148.6	189.3	169.0	435.5	217.9	293.3
Turkey	1,450.0	1,600.0	1,750.0	1,900.0	1,900.0	1,860.0	1,680.0	1,950.0	1,800.0	1,900.0
Yugoslavia	508.0	746.0	557.0	584.0	368.0	637.0	423.0	518.0	546.0	500.0
Total	3,574.9	4,313.6	3,994.6	4,174.9	3,767.5	4,350.5	3,659.3	4,472.0	3,947.9	4,018.0
Total Europe	9,771.4	13,915.9	11,239.8	12,611.9	11,116.1	12,680.5	11,141.3	13,382.0	11,691.3	11,728.3
<b>ASIA:</b>										
Japan	845.7	923.5	1,048.0	811.7	909.8	986.1	997.9	1,042.0	1,045.0	1,069.0
Taiwan	14.9	11.0	12.0	13.5	13.7	15.7	16.3	12.1	18.0	12.0
Total	860.6	934.5	1,060.0	825.2	923.5	1,001.8	1,014.2	1,054.1	1,063.0	1,081.0
Total Northern Hemisphere	14,851.4	19,406.5	16,887.5	18,133.5	16,550.9	18,264.2	18,149.3	19,702.8	18,216.2	18,058.9
<b>SOUTHERN HEMISPHERE</b>										
Argentina	804.0	817.0	872.0	922.4	593.9	1,078.0	924.5	970.0	1,050.0	N/A
Australia	294.5	300.8	267.0	352.0	288.0	362.0	309.0	328.0	337.0	N/A
Chile	345.0	365.0	410.0	450.0	515.0	580.0	630.0	660.0	665.0	N/A
New Zealand	224.8	217.3	255.6	285.7	310.0	343.9	382.8	359.5	388.0	N/A
South Africa	485.9	519.0	513.1	557.0	516.7	470.2	526.3	534.2	558.9	N/A
Total Southern Hemisphere	2,154.2	2,219.1	2,317.7	2,567.1	2,223.6	2,834.1	2,772.6	2,851.7	2,998.9	N/A
WORLD PRODUCTION	17,005.6	21,625.6	19,205.2	20,700.6	18,774.5	21,098.3	20,921.9	22,554.5	21,215.1	N/A

1/ Preliminary. 2/ N/A = not available until January 1991.



TABLE 14

WORLD COMMERCIAL PEAR PRODUCTION  
(1,000 Metric Tons)

	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
NORTHERN HEMISPHERE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
NORTH AMERICA:										
Canada	31.7	30.7	28.7	24.4	28.2	23.7	27.6	23.3	20.6	19.5
Mexico	30.7	46.6	48.8	51.6	52.0	57.5	54.8	50.1	44.9	43.7
United States	813.7	727.5	701.8	642.5	675.5	696.0	851.4	781.0	831.9	851.4
Total	876.1	804.8	779.3	718.5	755.7	777.2	933.8	854.4	897.4	914.6
EUROPEAN COMMUNITY:										
Bel-Lux	57.9	96.9	101.7	72.3	78.5	80.7	91.5	84.0	87.2	59.4
Denmark	6.1	4.8	6.0	6.0	6.2	6.0	3.9	6.0	5.8	6.6
France	422.3	428.7	414.2	449.2	417.0	347.6	439.8	345.0	331.0	313.1
Germany, F.R.	276.1	533.8	380.3	448.9	334.9	498.9	294.1	498.2	347.1	314.0
Greece	115.0	129.0	146.0	117.0	111.0	111.0	91.3	91.4	95.0	86.7
Italy	1,220.0	1,142.1	1,202.0	1,064.4	801.6	913.0	900.6	986.5	754.0	1,050.0
Netherlands	110.0	120.0	135.0	128.0	107.0	90.8	140.0	89.0	113.0	79.0
Spain	525.0	451.0	551.0	498.9	600.1	361.2	520.6	457.3	550.2	407.8
United Kingdom	49.2	40.2	54.0	48.1	50.7	46.7	63.4	31.7	43.6	35.1
Total	2,781.6	2,946.5	2,990.2	2,832.8	2,507.0	2,455.9	2,545.2	2,589.1	2,326.9	2,351.7
OTHER EUROPE:										
Austria	31.5	56.6	49.4	53.6	44.0	50.9	35.9	53.8	46.7	44.8
Norway	10.5	8.1	7.6	11.7	9.0	3.8	4.9	7.8	4.2	5.5
Sweden	13.9	11.1	12.0	12.5	8.6	8.8	9.4	11.3	10.8	10.4
Switzerland	29.0	34.0	25.2	27.2	21.6	21.9	19.8	23.5	17.9	18.0
Turkey	320.0	330.0	384.0	360.0	370.0	380.0	370.0	410.0	425.0	430.0
Yugoslavia	137.1	177.3	165.4	145.0	146.6	169.1	146.6	173.3	177.0	150.0
Total	542.0	617.1	643.6	610.0	599.8	634.5	586.6	679.7	681.6	658.7
Total Europe	3,323.6	3,563.6	3,633.8	3,442.8	3,106.8	3,090.4	3,131.8	3,268.8	3,008.5	3,010.4
ASIA:										
Japan	486.5	492.6	502.6	479.5	470.5	489.3	476.5	454.1	447.9	461.0
Total Northern Hemisphere	4,686.2	4,861.0	4,915.7	4,640.8	4,333.0	4,356.9	4,542.1	4,577.3	4,353.8	4,386.0
SOUTHERN HEMISPHERE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Argentina	137.5	176.0	167.0	192.5	164.9	252.1	211.2	240.0	230.0	N/A
Australia	109.7	119.0	122.0	138.0	143.0	146.0	163.0	140.0	136.0	N/A
Chile	45.0	50.0	66.0	60.0	78.0	84.0	95.0	119.0	139.0	N/A
New Zealand	17.2	6.9	13.2	12.8	13.5	14.2	15.5	12.9	13.2	N/A
South Africa	147.6	139.6	128.4	148.0	143.7	173.3	198.2	181.2	201.2	N/A
Total Southern Hemisphere	457.0	491.5	496.6	551.3	543.1	669.6	682.9	693.1	719.4	N/A
WORLD PRODUCTION	5,143.2	5,352.5	5,412.3	5,192.1	4,876.1	5,026.5	5,225.0	5,270.4	5,073.2	N/A

1/ Preliminary. 2/ N/A = not available until January 1991.

TABLE 15

WORLD COMMERCIAL APRICOT PRODUCTION  
(1,000 Metric Tons)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
NORTHERN HEMISPHERE	----	----	----	----	----	----	----	----	----	----
France	80.4	71.5	102.2	81.7	102.5	113.5	96.8	95.0	130.0	107.5
Greece	104.9	90.4	142.0	95.0	127.6	86.0	109.8	153.9	83.9	113.4
Italy	133.6	172.4	186.6	195.6	194.9	191.5	198.7	195.8	189.0	181.5
Spain	174.0	180.0	162.0	208.1	153.1	149.8	141.7	157.2	155.6	115.2
Turkey	152.0	205.0	245.0	250.0	202.0	350.0	250.0	360.0	445.0	400.0
United States	81.1	107.2	84.4	115.4	118.7	49.6	103.7	92.2	106.1	110.9
Yugoslavia	30.1	28.1	32.2	19.3	26.4	25.6	21.3	28.0	46.0	40.0
Total	756.1	854.6	954.4	965.1	925.2	966.0	922.0	1,082.1	1,155.6	1,068.5
SOUTHERN HEMISPHERE	----	----	----	----	----	----	----	----	----	----
Argentina	10.7	19.1	25.8	28.6	25.9	11.8	12.4	23.0	16.6	15.5
Australia	30.6	27.1	26.9	23.6	24.5	29.6	29.5	29.5	27.0	27.3
Chile	13.0	12.0	13.5	13.3	14.0	14.7	11.8	12.5	14.0	14.7
New Zealand	6.5	7.2	5.4	8.0	9.4	9.0	8.7	8.5	9.0	7.8
South Africa	32.7	26.1	23.5	40.6	25.5	40.5	41.9	44.2	43.0	46.4
Total	93.5	91.5	95.1	114.1	99.3	105.6	104.3	117.7	109.6	111.7
WORLD PRODUCTION	849.6	946.1	1,049.5	1,079.2	1,024.5	1,071.6	1,026.3	1,199.8	1,265.2	1,180.2
1/ Preliminary.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

WORLD COMMERCIAL CHERRY PRODUCTION  
(1,000 Metric Tons)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
NORTHERN HEMISPHERE	----	----	----	----	----	----	----	----	----	----
Canada	10.3	10.8	15.0	15.8	16.0	8.4	15.4	12.3	12.7	13.1
France	98.3	123.2	97.9	119.0	100.8	91.8	101.2	73.0	98.0	76.3
Germany, F.R.	117.5	298.4	272.7	295.4	248.8	249.4	250.9	232.8	205.9	205.3
Greece	27.5	24.3	24.4	29.0	23.2	38.8	33.9	35.0	35.8	41.7
Italy	167.1	169.0	159.1	158.6	157.0	139.6	158.4	144.0	136.5	100.0
Japan	12.8	15.4	24.1	15.0	23.3	16.7	18.8	18.4	14.5	16.0
Spain	76.0	72.0	74.0	78.0	80.0	66.9	68.7	54.4	61.8	42.6
Turkey	155.0	167.0	176.0	170.0	215.0	220.0	195.0	215.0	210.0	200.0
United States	199.3	283.1	234.5	288.1	250.0	226.6	357.9	276.1	301.1	212.7
Yugoslavia	150.0	155.0	188.3	160.0	181.7	157.0	180.8	200.8	220.0	170.0
Total	1,013.8	1,318.2	1,266.0	1,328.9	1,295.8	1,215.2	1,381.0	1,261.8	1,296.3	1,077.7
SOUTHERN HEMISPHERE	----	----	----	----	----	----	----	----	----	----
Australia	6.5	5.4	4.2	3.5	5.1	5.8	6.1	7.1	7.0	7.4
Chile	5.9	6.0	7.0	7.9	8.5	9.5	6.3	8.6	10.6	11.2
Total	12.4	11.4	11.2	11.4	13.6	15.3	12.4	15.7	17.6	18.6
WORLD PRODUCTION	1,026.2	1,329.6	1,277.2	1,340.3	1,309.4	1,230.5	1,393.4	1,277.5	1,313.9	1,096.3
1/ Preliminary.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

October 1990

Production Estimates and Crop Assessment Division



TABLE 16

WORLD COMMERCIAL PEACH AND NECTARINE PRODUCTION  
(1,000 Metric Tons)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
NORTHERN HEMISPHERE	----	----	----	----	----	----	----	----	----	----
Canada	27.3	34.3	38.8	37.0	42.2	33.2	44.9	44.1	37.6	43.0
France	480.4	413.6	471.4	478.8	488.0	473.1	487.9	457.0	549.0	498.5
Greece	433.0	476.0	484.0	520.0	532.5	512.1	546.8	614.6	641.0	700.0
Italy	1,531.8	1,569.3	1,639.9	1,554.4	1,419.5	1,436.0	1,542.0	1,476.1	1,596.6	1,622.8
Japan	238.8	227.5	236.9	215.6	205.4	219.2	212.3	202.9	180.2	201.1
Mexico	173.5	229.9	187.7	233.5	230.5	252.9	230.0	264.5	265.0	265.0
Spain	441.0	462.0	492.0	508.8	531.4	527.2	604.0	639.4	769.8	624.4
Turkey	265.0	265.0	270.0	235.0	200.0	275.0	235.0	328.0	315.0	305.0
United States	1,427.3	1,198.2	1,009.4	1,372.7	1,164.9	1,202.3	1,253.5	1,367.1	1,239.8	1,148.2
Yugoslavia	89.1	96.7	101.6	92.6	79.4	89.5	77.9	77.0	80.0	65.0
Total	5,107.2	4,972.5	4,931.7	5,248.4	4,893.8	5,020.5	5,234.3	5,470.7	5,674.0	5,473.0
SOUTHERN HEMISPHERE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Argentina	222.0	182.0	256.0	241.0	287.4	209.0	181.1	260.0	249.5	265.0
Australia	83.2	69.5	68.4	53.5	65.3	68.4	73.0	75.0	65.0	63.0
Chile	121.7	104.0	130.0	142.0	155.0	148.9	147.0	151.4	162.4	171.0
New Zealand	23.0	30.0	23.6	27.3	25.0	27.0	28.0	28.5	28.0	30.0
South Africa	142.9	147.7	146.7	133.3	120.8	146.4	148.9	145.7	139.2	141.7
Total	592.8	533.2	624.7	597.1	653.5	599.7	578.0	660.6	644.1	670.7
WORLD PRODUCTION	5,700.0	5,505.7	5,556.4	5,845.5	5,547.3	5,620.2	5,812.3	6,131.3	6,318.1	6,143.7
1/ Preliminary.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

WORLD COMMERCIAL TABLE GRAPE PRODUCTION  
(1,000 Metric Tons)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
NORTHERN HEMISPHERE	----	----	----	----	----	----	----	----	----	----
France	167.4	160.8	127.6	127.9	153.9	135.0	123.8	138.0	125.0	128.0
Greece	260.0	239.0	256.0	317.8	345.9	311.0	296.6	318.9	284.5	275.0
Italy	1,435.5	1,377.8	1,865.0	1,550.0	1,720.0	1,748.6	1,619.5	1,427.4	1,445.0	1,390.0
Japan	282.0	303.8	284.9	285.3	280.5	272.6	272.0	259.5	235.2	254.8
Mexico	400.0	192.0	243.8	264.6	278.3	279.4	324.2	335.6	345.0	347.0
Spain	494.0	539.0	508.0	553.9	561.3	555.0	514.6	414.0	430.1	497.6
United States	477.4	640.8	609.0	614.1	708.9	707.1	649.8	754.2	714.2	N/A
Yugolvia	195.0	267.0	242.0	212.0	144.0	232.5	198.5	173.3	153.3	172.5
Total	3,711.3	3,720.2	4,136.3	3,925.6	4,192.8	4,241.2	3,999.0	3,820.9	3,732.3	N/A
SOUTHERN HEMISPHERE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Argentina	114.0	120.0	117.0	91.0	100.0	92.0	110.0	120.0	140.0	143.0
Chile	121.7	152.0	200.0	225.0	295.0	317.5	397.0	490.0	540.0	620.0
South Africa	62.2	62.1	62.4	72.0	79.1	61.3	95.6	87.0	101.8	113.1
Total	297.9	334.1	379.4	388.0	474.1	470.8	602.6	697.0	781.8	876.1
WORLD PRODUCTION	4,009.2	4,054.3	4,515.7	4,313.6	4,666.9	4,712.0	4,601.6	4,517.9	4,514.1	N/A
1/ Preliminary.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

## SOVIET GRAIN PRODUCTION TRENDS

In 1978, the Soviet Union produced a record 237 million tons of grain on 128.5 million hectares. Despite a considerable reduction in area sown to grains, USDA is estimating 1990/91 grain production at 235 million tons, and some Soviet agricultural experts are predicting that this year's harvest will set a new record, perhaps reaching 240 million tons. Whether 1990 production will exceed the record remains to be seen, given the fuel, labor, and equipment shortages and other infrastructure problems with which Soviet producers must contend, but favorable weather in almost all agricultural regions of the USSR has contributed to a reported bumper grain harvest. Good weather alone, however, is not able to explain how the Soviet Union is able this year to challenge a grain production record that was established at a time when almost 20 million additional hectares were seeded to grains. The achievement of higher and more stable grain yields has resulted from crop area reductions in less productive regions, increased use of fallow in area rotation, and an increased concentration of resources on remaining cropland. This has enabled Soviet farmers to take better advantage of this year's excellent weather.

### LESS-PRODUCTIVE WHEAT AREA REDUCED

Total grain area in the USSR increased dramatically during the mid-1950's as a result of Krushchev's Virgin Lands program. According to Zhores Medvedev in his book Soviet Agriculture, over 35 million hectares of newly plowed land in Kazakhstan, the Urals, western Siberia, and Altay were put into grain production between 1954 and 1956. For the next 20 years grain area fluctuated widely, dropping to 114 million hectares in 1959 and climbing to a record 133 million hectares five years later. Since 1977, however, total grain area has been dropping steadily, and by 1989 had fallen to 112 million hectares. This decrease has come primarily at the expense of spring wheat. About 80 percent of the Soviet Union's current spring wheat area is located in Kazakhstan, Western Siberia, and the Urals, where precipitation is frequently inadequate for good crop growth. As a result, spring wheat production in the Soviet Union has traditionally been subject to wide variation and a low average yield. In Kazakhstan, for example, the average grain yield between 1981 and 1989 was less than one ton per hectare. By comparison, yields of higher-producing winter wheat in the Ukraine for the same period averaged 2.62 tons per hectare. One result of reducing spring wheat area has been to reduce year-to-year fluctuation in grain production.

### SPRING BARLEY PRODUCTION SURPASSES SPRING WHEAT

Besides wheat, barley is the other major spring grain crop in the Soviet Union. It is grown in all agricultural regions of the country. Spring barley production has been higher than spring wheat production since 1982, resulting from the combination of barley's higher yields and declining spring wheat area. In the Ukraine, where total grain area has remained relatively stable, sown areas for spring barley and winter wheat have fluctuated inversely over the last ten years. Despite a slight reduction this year in USDA's estimates of sown area, estimated 1990/91 Soviet spring barley production of 52.0 million tons is expected to exceed last year's output by 8 million tons.



## WINTER GRAIN AREA APPROACHES 1978 LEVEL AS INTENSIVE TECHNOLOGY GROWS

Although total grain area in the USSR has been steadily declining since 1977, the area sown to winter grains has been expanding over the past few years. This growth in area coincides with the growth of intensive technology. Intensive technology involves the adoption of western-European-style farming practices, including improved methods of fertilizer application, increased use and better application of chemical pesticides, improved hybrids, and soil conservation measures. The application of intensive technology has increased rapidly since its introduction around 1985. According to 1988 GOSKOMSTAT figures, almost 60 percent of winter wheat cropland in the Ukraine was under intensive technology, reflecting a three-fold increase in only four years. The 1990 Soviet target is for 50 million hectares of grain crops to be under intensive technology. The concurrent jump in winter wheat yields since 1985 has been striking. In 1978, when the Soviet Union produced a record 68.9 million tons of winter wheat, the yield was 2.98 tons per hectare. Winter wheat yields have met or exceeded that mark every year since 1987, and preliminary 1990 harvest reports indicate that this year's winter wheat crop will break both last year's record yield of 3.33 tons per hectare and 1978's record production figure of 68.9 million tons.

## WINTER RYE REBOUNDED

In pre-Revolutionary times, rye was the major Russian grain crop; almost 30 million hectares were devoted to winter rye production. Rye area fell steadily for 60 years and reached a low of 6.5 million hectares in 1979. Over the past few years the course of winter rye production has followed that of winter wheat: increasing area and improving yields. In 1989, production was 20.1 million tons, the highest in 35 years. The current USDA estimate for the 1990/91 crop is 21.0 million tons from 10.5 million hectares.

## IRRIGATION CONTRIBUTES TOWARD HIGHER GRAIN PRODUCTION

The amount of crop area under irrigation in the Ukraine and RSFSR has almost tripled since 1970. While forage crops constitute the greatest proportion of irrigated cropland, the area of grain crops under irrigation exceeded that of cotton in 1988. Between 1976 and 1980, an average of 3.2 million hectares, 2.5 percent of total grain area, was irrigated. By 1988, over 4 million hectares, 3.6 percent of total grain area, was under irrigation. Comparing yields of irrigated grain to average grain yields suggests that irrigation contributed an extra 7 million tons toward production in 1988. When placed in the context of a 195-million-ton production figure, 7 million tons is a modest sum, but irrigation, like intensive technology, exerts a stabilizing influence on year-to-year yields.

### TOTAL USSR GRAIN

<u>Year</u>	<u>Grain Area Under Irrigation (MHA)</u>	<u>Grain Yield Under Irrigation (T/Ha)</u>	<u>Average Grain Yield (T/Ha)</u>	<u>Production Under Irrigation (MMT)</u>
1966-70	2.1	1.92	1.37	4.1
1971-75	2.6	2.53	1.47	6.5
1976-80	3.2	3.15	1.60	10.1
1981-85	3.6	3.29	1.49	12.0
1986	3.8	3.39	1.80	12.9
1987	4.0	3.38	1.83	13.6
1988	4.1	3.37	1.70	14.0

Source: Narodnoye Khozyaistvo, USSR 1988.

### AGRONOMIC POLICIES RAISE PRODUCTION POTENTIAL

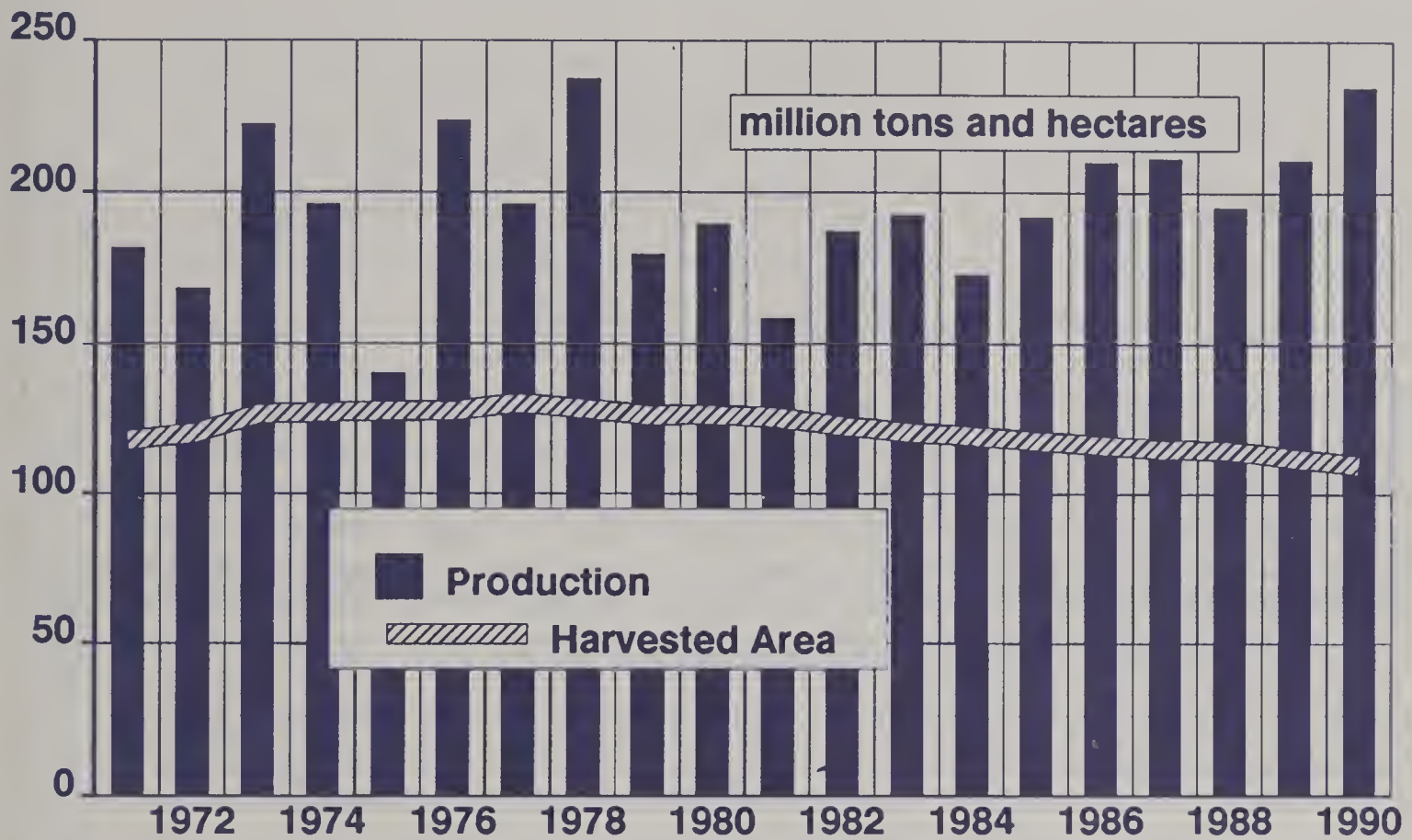
Although central planning infiltrates almost every aspect of Soviet agriculture, recent highly touted policies intended to increase production through economic channels have met with limited success. Under the "valuta" program announced in the fall of 1989, farmers were to receive hard currency for above-quota sales of grain to the State. The program resulted in only about 200,000 tons of additional sales, rather than the expected 10 million. The drive toward the leasing of agricultural land and other "privatization" measures has not had sufficient time to have much effect on production. The recent steady improvement in grain yields have been chiefly the result of agronomic policies, namely intensive technology, rather than economic policies. Continued advancement in agricultural production will certainly depend upon economic reforms. In order for the Soviet Union to take better advantage of the potential created by agronomic improvements, economic reforms must stimulate changes in the agricultural sector's material and technical base: improvements in storage and processing, fuel distribution, availability of machinery and spare parts, and transportation.

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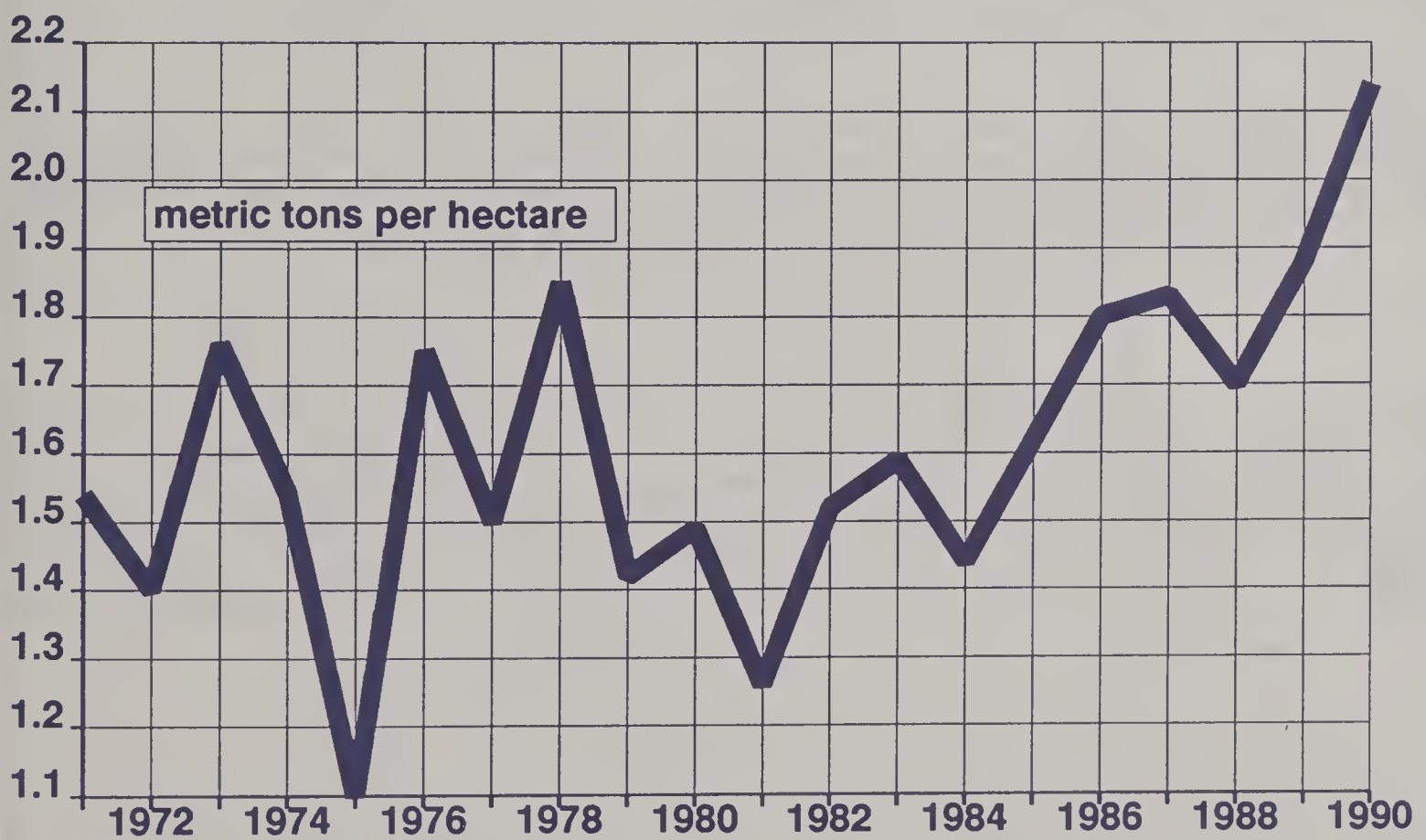
GRAPH 1

# USSR Total Grains



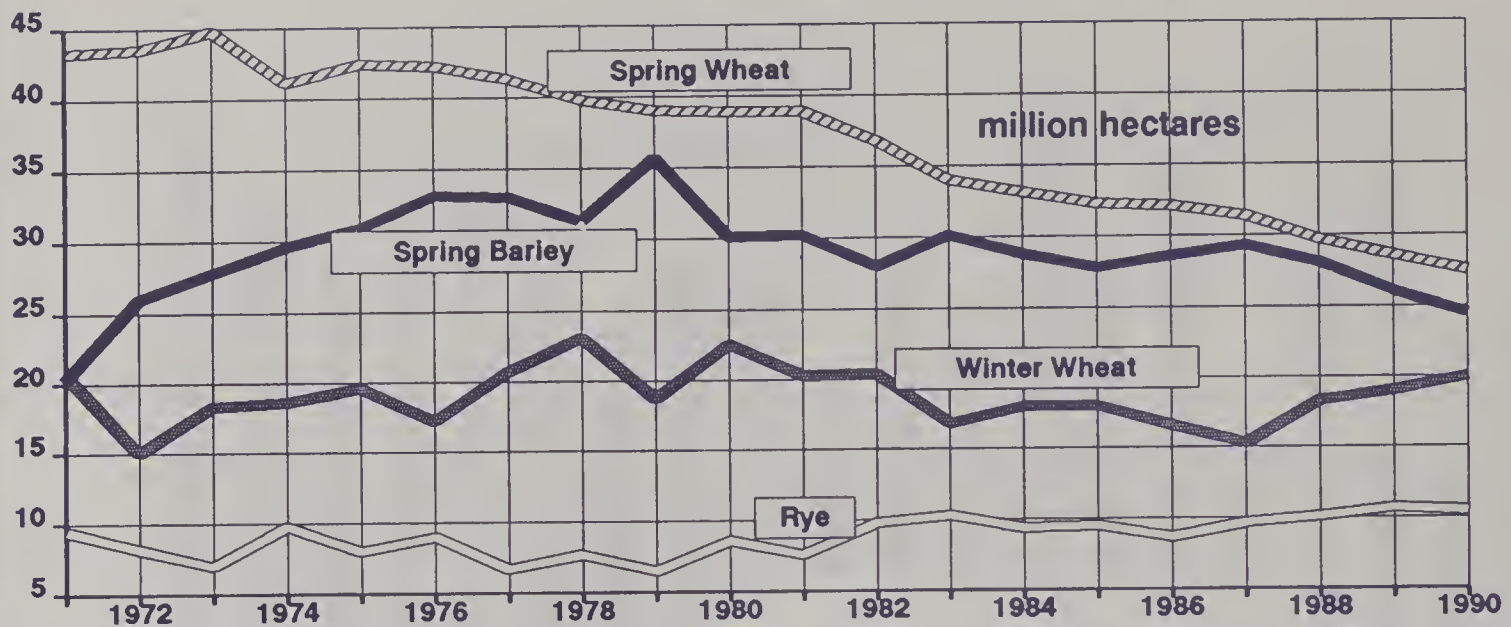
GRAPH 2

# USSR Total Grain Yields



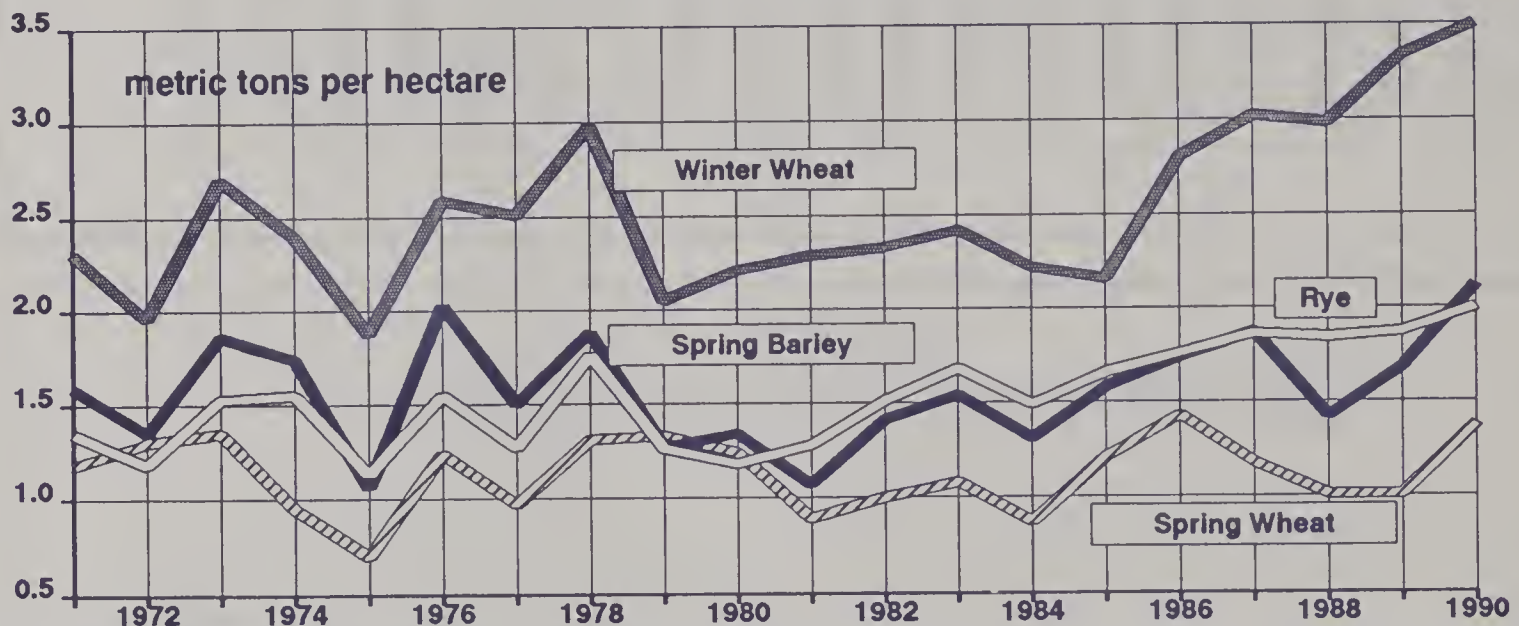
GRAPH 3

## USSR Area: Selected Grains



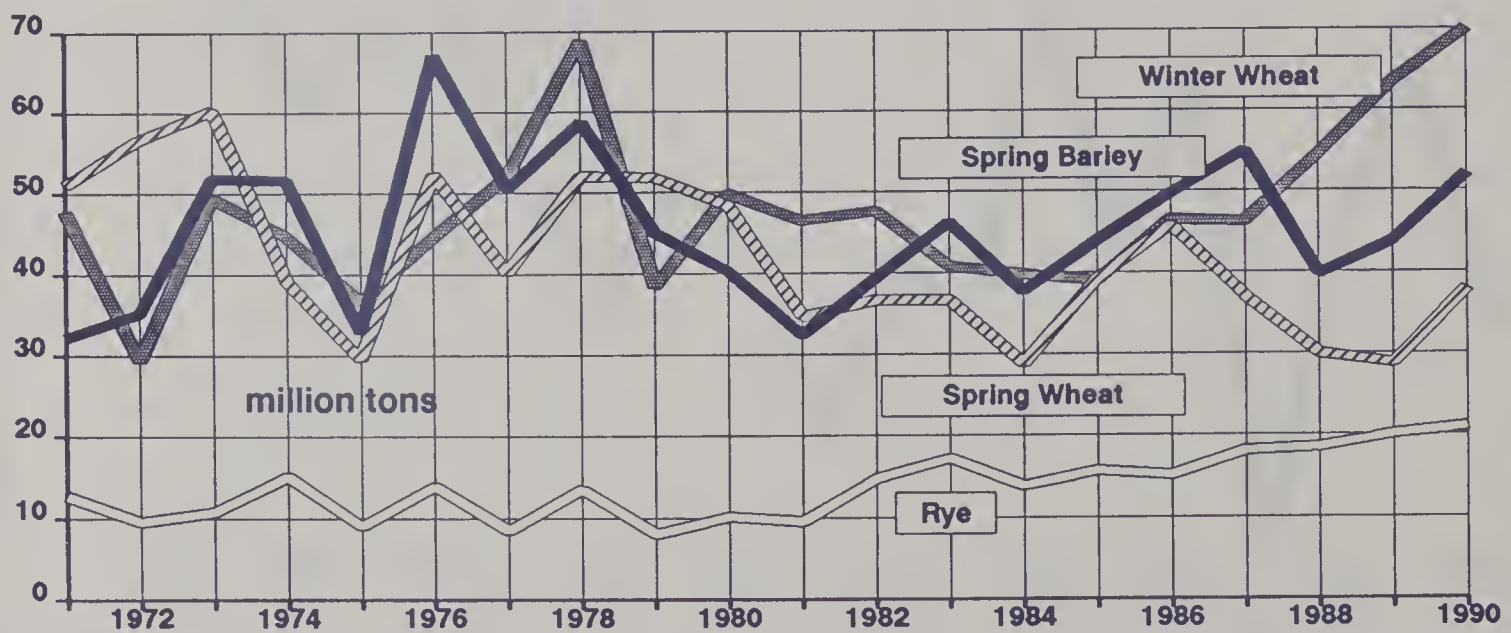
GRAPH 4

## USSR Yields: Selected Grains



GRAPH 5

## USSR Production: Selected Grains





## WORLD COCOA PRODUCTION

World 1990/91 (October–September) cocoa bean production is estimated at 2.390 million tons, virtually unchanged from last year's revised outturn of 2.392 million but 3 percent below the 1988/89 record of 2.468 million tons. The largest regional increase over last year is expected to occur in Asia, up 8 percent, followed by South America, up 3 percent. Production in each of the other two regions is forecast down 4 percent.

### AFRICA

In Africa, 1990/91 cocoa production is forecast down 50,000 tons or 4 percent from 1989/90. In Cote d'Ivoire, the world's largest producer, the forecast of 690,000 tons is down 3 percent from a year ago and 19 percent below the record outturn of 849,000 tons in 1988/89. Cocoa yields are down due to dry weather and decreased tree maintenance. Partially offsetting the decline in yields is the increasing number of trees of optimal bearing age and new trees coming into production. Farmers are finding it increasingly difficult to finance pesticide purchases and to pay for labor necessary for proper tree maintenance. Cocoa producers' financial problems arose as a result of a Government reduction in the producer price for 1989/90. As part of Cote d'Ivoire's "Structural Adjustment Program," the Government lowered grower prices in order to decrease Government expenditures.

The Government wants to maintain crop area at current levels and to discourage expansion in light of low world market prices. However, supplies of free hybrid seeds are available to farmers for area expansion, replanting, or increasing tree numbers on existing plantations.

In Ghana, the forecast for 1990/91 is 270,000 tons, down 8 percent from last season and 10 percent less than the relatively large crop of 1988/89. The crop will be late and the yields will be substantially reduced due to inadequate rainfall in mid-1990. Over the long term, the Government hopes to maintain production at about 300,000 tons per year. A new strain of black pod disease affected limited areas and has increased the need to use fungicides. However, the elimination of subsidies on insecticides and fungicides in August 1990 is likely to lead to a sharp drop in usage this year. At the start of the 1990 season, the Government was reviewing options to provide credit or some other means to maintain chemical use by private farmers.

In Nigeria, the production forecast of 150,000 tons is down slightly from last year. Rains in 1990 came late and were generally less plentiful than normal through August. Farmers were disappointed after mid-1989 when farmgate prices fell from the very high levels of 1988/89. Price increases and widespread adulteration have caused farmers to cut fungicide usage as much as 50 percent from former levels.

## SOUTH AMERICA

South America's 1990/91 cocoa production is forecast at 549,000 tons, up 3 percent from last year. The forecast for Brazil, the world's second largest producer, is 375,000 tons, up 6 percent (20,000 tons) from last year. The fast spread of witches-broom fungus in Bahia, coupled with the lack of proper control measures by growers, has become a serious threat to Bahia cocoa production. The Bahia main crop is forecast at 200,000 tons, the Temporao at 130,000, and production in other states at 45,000 tons. Favorable weather during the Southern Hemisphere winter months contributed to the optimistic outlook for the upcoming Bahia main crop. Despite an excessively humid and unusually cold winter, pod rot fungus has not been serious thus far. Low prices received by growers have discouraged proper application of fertilizers and pesticides. The witches-broom fungus, *Crinipellis perniciososa*, now infests 220 cocoa plantations over a total area of 3,000 hectares, with no adequate control program defined. There has been no change in Brazil's area planted with cocoa trees since last year. In Ecuador, the production forecast of 88,000 tons is down 4 percent from last year. The forecast reflects a return to near-average yields following an exceptionally good harvest. Because of higher farm prices, growers are now using more pesticides and fertilizers and better orchard management, increasing their yields. The long-term outlook for cocoa production will depend on grower prices compared with net cash returns from alternative crops, such as bananas, soybeans, and corn.

## CENTRAL AMERICA AND CARIBBEAN

North and Central America and Caribbean cocoa production for 1990/91 is forecast at 111,000 tons, 4 percent less than a year ago. In the Dominican Republic, the forecast is 52,000 tons, down 10 percent from last season. The 1990/91 projection is less optimistic as a result of the toll of the recent heavy 1989/90 harvest and drought. These two elements are expected to reduce yields below last year's new industry target of 475 kilograms per hectare.

## ASIA/OCEANIA

Asia/Oceania cocoa production for 1990/91 is forecast at 456,000 tons, an increase of 8 percent over last year. In Malaysia, the forecast is a record 275,000 tons, up 10 percent from last year. A recovery in cocoa prices in mid-1990 encouraged growers to apply fertilizers and pesticides at higher levels. An anticipated modest improvement in yields and an additional 34,000 hectares of cocoa trees reaching peak production lend support to the projection. Unusually heavy showers during January-March 1990 did cause some damage to newly formed flowers in Sabah. However, new flowers started to appear in April, and the start of the main-season harvest is now expected to be only somewhat delayed to November 1990.

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TABLE 17

COCOA BEAN PRODUCTION, SELECTED COUNTRIES 1/  
(1,000 Metric Tons)

	Average 1981/85	1986/87	1987/88	1988/89	1989/90	1990/91
Costa Rica	3.9	3.8	3.9	4.1	4.2	4.3
Cuba	2.1	2.1	2.1	2.1	2.1	2.1
Dominican Republic	40.0	45.2	50.0	44.3	58.0	52.0
Grenada	2.3	2.0	2.0	2.0	2.0	2.0
Guatemala	1.8	2.0	2.0	2.0	2.0	2.0
Haiti	3.3	3.0	3.0	3.0	3.0	3.0
Honduras	0.8	1.8	1.9	2.1	2.2	2.2
Jamaica & Dep	2.3	2.6	2.4	1.5	1.5	2.0
Mexico	36.4	37.9	47.5	41.0	38.5	39.0
Nicaragua	0.2	0.2	0.2	0.2	0.2	0.2
Panama	0.7	0.5	0.5	0.5	0.5	0.5
Trinidad and Tobago	2.1	1.6	1.8	1.4	1.5	1.5
Other 2/	0.2	0.2	0.2	0.2	0.2	0.2
NORTH AND CENTRAL AMERICA AND CARIBBEAN	96.1	102.9	117.5	104.4	115.9	111.0
Bolivia	2.7	2.5	2.5	2.5	2.5	2.5
Brazil	345.8	365	400	334	355	375
Colombia	39.4	52	53.8	56.3	58	60
Ecuador	82.1	77	76	82	92	88
Peru	9.3	10	10	10	10	10
Surinam	0.1	0.1	0.1	0.1	0.1	0.1
Venezuela	13.3	13.9	12.5	11.5	13	13
SOUTH AMERICA	492.7	520.5	554.9	496.4	530.6	548.6
Angola	0.2	0.2	0.2	0.2	0.2	0.2
Cameroon	114.9	123.0	133.0	124.0	117.0	120.0
Comoro Islands	0.1	0.1	0.1	0.1	0.1	0.1
Congo	1.8	1.0	1.2	1.6	1.0	1.0
Cote d' Ivoire 3/	443.7	619.8	673.9	848.9	710.0	690.0
Equatorial Guinea	8.6	7.0	8.3	6.6	8.0	8.0
Gabon	2.3	1.7	1.6	1.9	1.8	1.8
Ghana	199.2	228.0	187.0	301.0	295.0	270.0
Liberia	5.6	2.3	3.3	3.0	3.0	2.0
Madagascar	2.1	2.9	2.2	2.8	2.5	2.5
Nigeria 4/	159.6	100.0	145.0	160.0	155.0	150.0
Sao Tome and Principe	4.7	2.2	4.7	4.3	4.0	4.0
Sierra Leone	9.7	8.4	9.0	7.6	8.0	8.0
Tanzania	1.3	1.4	1.6	1.9	1.5	1.5
Togo 3/	12.9	15.7	12.0	10.0	12.0	10.0
Uganda	0.2	0.4	0.2	0.3	0.3	0.3
Zaire	4.7	5.0	5.7	4.6	5.0	5.0
AFRICA	971.6	1119.1	1189.0	1478.8	1324.4	1274.4
Fiji	0.2	0.3	0.3	0.3	0.3	0.3
India	4.1	6.0	6.0	6.0	6.0	6.0
Indonesia	21.1	50.0	60.0	95.0	110.0	120.0
Malaysia	73.6	167.0	227.0	225.0	250.0	275.0
Papua New Guinea	28.7	34.0	35.0	48.0	40.0	40.0
Philippines	5.3	6.6	7.2	7.8	9.0	9.0
Solomon Islands	0.9	2.0	2.5	2.6	2.7	3.0
Sri Lanka	1.5	1.5	1.5	1.5	1.5	1.5
Vanuatu/New Hebrides	0.8	1.1	0.8	1.4	1.0	1.0
Western Samoa	1.0	0.5	0.7	0.5	0.5	0.5
ASIA AND OCEANIA	127.8	269.0	341.0	388.1	421.0	456.3
WORLD	1697.8	2011.5	2202.4	2467.7	2391.9	2390.3

1/Estimates refer to an October-September crop year. 2/Includes Dominica, St. Lucia, Guadeloupe, and Martinique. 3/ Includes some cocoa marketed from Ghana. 4/ Includes cocoa marketed through Benin.

OCTOBER 1990 PRODUCTION ESTIMATES AND CROP ASSESSMENT DIVISION, CMP, USDA

## 1990/91 DURUM WHEAT SITUATION

Durum wheat production for 1990/91 in a selected number of durum producing countries is estimated to be up about 14 percent from last year. Significantly higher 1990 output is estimated for the United States, Canada, the EC-12, and Turkey. Durum wheat production is centered in 10 countries, which together are estimated to account for roughly 80 percent of the world total. The world's two major durum production areas are the Mediterranean basin and the North American Great Plains. Approximately 6 percent of all wheat grown is durum.

### COUNTRY-LEVEL DURUM WHEAT PRODUCTION

#### UNITED STATES

In the United States, durum wheat production for 1990/91 is estimated at 3.31 million tons, up 0.80 million or 32 percent from last year's crop. About 6 percent of all U.S. wheat grown is durum. Harvested durum area has fallen by a third since the early 1980's but the area of dessert durum has increased.

#### CANADA

In Canada, durum production for 1990 is estimated at a record 4.30 million tons, up 0.3 million or 8 percent from last year's harvest. Almost 17 percent of this year wheat crop produced is durum. Durum area is estimated at 2.23 million hectares; area is quite responsive to the guaranteed price and market conditions. The Palliser Triangle, located in Alberta and Saskatchewan, as well as central and southern Saskatchewan are traditional durum production areas.

In the EC-12, durum wheat output for 1990 is estimated at 6.59 million tons, up 0.62 million or 10 percent from 1989. Increases in estimated production in Italy and France more than offset an estimated decline in Greece. EC-12 durum production has risen approximately 50 percent in the past decade due mainly to relatively high EC institutional price and financial support given to producers.

#### FRANCE

In France, durum production for 1990 is estimated at 1.85 million tons, up 0.50 million or 37 percent from last year. Area has risen 250 percent in the last 10 years due to the aforementioned EC durum price increases relative to soft wheat and other crops. About 5 percent of all wheat is durum. The U.S. variety Cando, due to its resistance to low temperatures, occupies as much as half of the sown area in some regions of the country.

#### ITALY

In Italy, 1990 durum production is estimated at 3.60 million tons, up 0.53 million or 17 percent from 1989. Dry weather through March in central and southern Italy sharply reduced yields. Almost half of all wheat production is durum. There are no alternatives to durum wheat in most of southern Italy. Apulia is the major durum-producing region. Roughly a third of the total durum supply is used for pasta. The remainder is used for bread, particularly in Sicily, or is exported.



## GREECE

In Greece, durum output for 1990 is estimated at 800,000 tons, down 322,000 tons or 29 from last year due to drought, but up almost 200 percent from the late 1970's. Area this year is estimated at 650,000 hectares versus 515,000 in 1989, reflecting an increasing trend that began in the early 1980's. Durum area expansion into marginal areas previously growing soft wheat, sugarbeets, and processing tomatoes was primarily a result of EC income support measures.

## USSR

In the Soviet Union, output for 1990 is expected to increase from last year's level due to better weather in the New Lands. Harvested area is estimated at about 2.0 million hectares, with average yields of about 1.2-1.25 tons per hectare. Yields this year are estimated at approximately 20 percent higher than for 1989's drought-affected crop. Roughly 3 percent of all wheat produced is durum. Northern and western Kazakhstan grow more than 50 percent of all the durum. Other important areas include the Saratov, Orenburg, Volgograd, and Chelyabinsk oblasts, as well as the Bashkir and Altay regions. In the Volga and Orenburg areas, the dominant variety is Kharkhov 46, whereas in Western Siberia the Altaika 80 and Orenburg 10 varieties are most common. Durum commands a higher procurement price and usually follows fallow in field rotations.

## TURKEY

In Turkey, favorable late-spring and summer weather led to an estimated 1990 crop of 2.15 million tons, up 0.40 million or a fourth from the drought-affected 1989 harvest. About 15-20 percent of the total wheat crop is thought to be durum, although estimates vary since durum production is not broken out in Turkish official statistics and production is often not marketed. Thrace (European Turkey) and central Anatolia produce the bulk of Turkey's durum harvest.

## MOROCCO

In Morocco, 1990 output is estimated at 1.50 million tons, down 0.27 million or 15 percent from last year's bumper crop. Durum area has been relatively stagnant for the last decade at roughly 1.10-1.25 million hectares, while yields have fluctuated sharply (.52-1.66 tons per hectare) with weather conditions. Roughly half of all wheat produced is durum but soft wheat area is on the rise due to government policy which has introduced some liberalization in price support policies.

## ALGERIA

In Algeria, the 1990 durum crop is estimated at 0.50 million tons, down slightly from last year. Almost 75 percent of the total area sown to wheat is durum, which is primarily located in the eastern and central production areas. The chronic lack of farm implements, spare parts, agrochemicals, and irrigation water is slowing Government efforts to reduce durum imports by expanding sown area.

## TUNISIA

In Tunisia, early-spring drought stressed the 1990 crop but later rains were extremely timely. This year's crop is estimated at 0.90 million tons, up from the very poor 1989 harvest. About three-fourths of all wheat grown is durum and production is centered in the northern regions of Bizerte, Le Kef, Mateur, Jendouba, and Beja.

Other countries produce durum but, as in Turkey, do not statistically separate durum from soft wheat production or may in fact count non-durum hard wheats as "durum". These countries include India, Syria, Iraq, Jordan, China, Chili, Peru, Egypt, Ethiopia, and Libya. Minor quantities of durum also are grown in Austria, Yugoslavia, Argentina, Mexico, and Australia.

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TABLE 18

## DURUM WHEAT PRODUCTION IN SELECTED COUNTRIES/REGIONS

	Area (1000 Ha)	Yield (MT/Ha)	Production (1000 Tons)
<i>United States</i>			
1981	2,289	2.18	4,982
1982	1,690	2.35	3,970
1983	1,008	1.97	1,986
1984	1,303	2.16	2,815
1985	1,252	2.45	3,062
1986	1,252	2.13	2,665
1987	1,327	1.96	2,598
1988	1,152	1.06	1,220
1989	1,486	1.69	2,510
1990 Oct	1,417	2.34	3,312
<i>Canada</i>			
1981	1,699	1.75	2,977
1982	1,477	2.11	3,121
1983	1,416	1.85	2,620
1984	1,680	1.26	2,110
1985	1,740	1.13	1,960
1986	1,845	2.11	3,897
1987	2,186	1.84	4,014
1988	2,266	0.87	1,979
1989	2,611	1.53	3,989
1990 Oct	2,226	1.93	4,300
<i>EC-12 Total</i>			
1981	2,164	2.13	4,615
1982	2,230	1.94	4,316
1983	2,309	1.77	4,095
1984	2,373	2.78	6,605
1985	2,423	2.34	5,677
1986	2,628	2.60	6,827
1987	2,813	2.65	7,448
1988	2,680	2.46	6,595
1989	2,761	2.16	5,972
1990 Oct	2,836	2.32	6,589

TABLE 18 (Continued)

## DURUM WHEAT PRODUCTION IN SELECTED COUNTRIES/REGIONS

	Area (1000 Ha)	Yield (MT/Ha)	Production (1000 Tons)
<i>France</i>			
1981	124	3.43	425
1982	116	3.21	372
1983	111	3.67	407
1984	125	4.73	591
1985	166	4.57	759
1986	255	4.16	1,060
1987	311	4.46	1,386
1988	269	4.01	1,080
1989	297	4.55	1,350
1990 Oct	320	5.78	1,850
<i>Greece</i>			
1981	251	2.61	654
1982	287	2.60	747
1983	302	1.87	566
1984	312	2.92	912
1985	372	1.78	661
1986	372	2.55	950
1987	471	2.46	1,161
1988	500	2.32	1,160
1989	515	2.18	1,122
1990 Oct	650	1.23	800
<i>Italy</i>			
1981	1,685	2.03	3,417
1982	1,700	1.71	2,915
1983	1,749	1.66	2,901
1984	1,798	2.57	4,618
1985	1,739	2.21	3,851
1986	1,865	2.38	4,431
1987	1,895	2.36	4,476
1988	1,783	2.20	3,924
1989	1,822	1.68	3,066
1990 Oct	1,765	2.04	3,600
<i>Spain</i>			
1981	104	1.14	119
1982	126	2.23	281
1983	143	1.43	205
1984	125	3.41	426
1985	120	2.55	306
1986	105	2.40	252
1987	107	2.81	301
1988	110	3.10	341
1989	108	3.18	343
1990 Oct	105	3.05	320



TABLE 18 (Continued)

## DURUM WHEAT PRODUCTION IN SELECTED COUNTRIES/REGIONS

	Area (1000 Ha)	Yield (MT/Ha)	Production (1000 Tons)
<i>Algeria</i>			
1981	1,380	0.59	813
1982	1,117	0.57	633
1983	898	0.55	497
1984	1,226	0.66	804
1985	1,109	0.97	1,072
1986	978	0.81	790
1987	994	0.78	777
1988	665	0.62	415
1989	815	0.70	570
1990 Oct	770	0.65	500
<i>Morocco</i>			
1981	1,166	0.52	610
1982	1,107	1.27	1,406
1983	1,286	0.96	1,239
1984	1,123	1.04	1,171
1985	1,116	1.08	1,200
1986	1,192	1.66	1,981
1987	1,110	1.01	1,126
1988	1,105	1.60	1,766
1989	1,170	1.51	1,767
1990 Oct	1,230	1.22	1,500
<i>Tunisia</i>			
1981	695	1.16	804
1982	627	1.20	753
1983	819	0.62	509
1984	784	0.74	584
1985	857	1.25	1,069
1986	454	0.83	378
1987	820	1.30	1,065
1988	239	0.70	167
1989	446	0.75	333
1990 Oct	825	1.09	897
<i>Turkey</i>			
1981	1,275	1.55	1,980
1982	1,290	1.60	2,070
1983	1,305	1.53	1,995
1984	1,290	1.55	1,995
1985	1,290	1.48	1,905
1986	1,300	1.54	2,000
1987	1,300	1.54	2,000
1988	1,300	1.77	2,300
1989	1,300	1.35	1,750
1990 Oct	1,300	1.65	2,150

## WORLD HONEY PRODUCTION

Honey production in major producing countries for 1990 is forecast at 750,500 tons, up 3 percent from the revised 1989 harvest of 729,762 tons. The surveyed countries produce approximately two-thirds of the world's total.

### CANADA

Canadian honey production for 1990 is forecast at 31,000 tons, up 10 percent from last year's drought-affected crop. However, a combination of less-than-favorable climatic conditions and the declining number of bee colonies in virtually every major honey region is expected to keep Canadian production well below historical averages. In the three prairie provinces, which account for about 70 percent of Canadian production, the spring was cooler and somewhat later than usual. Throughout June and July, good moisture levels prevailed for crops but a prolonged cloudy period during the chief flowering period for canola reportedly reduced bee activity. This development was immediately followed by hot, dry weather, which hastened the ripening of most floral sources and resulted in a significant reduction in honey production potential. In addition, the prairie provinces report declines in the number of bee colonies in 1990 due to reduced profitability and lower hive replacement rates.

### MEXICO

Mexico's honey outturn for 1990 is forecast at 49,500 tons, up 2 percent from the previous year because of favorable weather in the main producing states and attractive export prices. Also, normal rainfall in the central and southern states resulted in abundant floral sources. In addition, producer/exporter groups can now obtain production and marketing loans in U.S. dollars at the prime rate, which contributes to modernizing the Mexican beekeeping industry. Africanized bees, however, continue to affect the main honey-producing areas. Small producers are most affected given the lack of economic resources to control this bee strain. Mexico's honey production is anticipated to trend downward as a result. Only the relatively large beekeepers with access to cheaper credit and producer associations are expected to continue in the industry. The Secretariat of Agriculture and the U.S. Department of Agriculture have discussed present and future programs to control and monitor the movement of Africanized bees in northwestern Mexico. U.S. 1990 honey output is forecast at 82,000 tons, 7 percent more than last year's drought-affected crop.

### ARGENTINA

Argentina's 1990 honey output (October 1989 through March 1990) is forecast at 39,000 tons, a decline of 1,000 tons or 2 percent from last year's revised estimate. A larger harvest in Santa Fe province did not completely offset reduced output in Buenos Aires. Argentine honey producers are divided into three categories: hobby producers who own up to 5 hives and represent about 30 percent of total hives; part-time producers who own from 6 to 300 hives and account for half of total hives; and full-time producers who own more than 300 hives representing about 20 percent of the country's hives.



## BRAZIL

Brazil's 1990 honey production is forecast at a record 42,300 tons, up 4,300 tons from the previous year. Most of the increase is attributed to favorable weather, coupled with an increase in the number of producers. Expansion in the honey industry is primarily driven by a need for additional sources of income in the rural economy. This sector is part of the so-called "informal economy." The industry will likely continue to expand in the next few years due to the large unexplored potential of floral sources in Brazil, and as an alternative source of income to small producers. The Federal Government does not attempt to influence this sector.

## USSR

In the Soviet Union, the world's largest honey producer, the 1990 harvest is forecast at 270,000 tons, up 8 percent or 21,000 tons from the 1989 crop. Honey production has steadily increased during the 1980's. These increases are attributed to the growth in productivity of bee colonies because of the introduction of intensive technologies and the increase in the overall number of colonies, especially in the more productive non-state run sector. Several new laws have been introduced over the past year that may benefit Soviet honey production. Laws on land ownership may encourage private farmers to start or expand production. In addition, changes in banking regulations may permit greater investment and increase the number of loans for equipment in this sector. However, lack of equipment, parasites, and agrochemical abuse are several problems which negatively affect Soviet honey production.

## CHINA

China, the second largest honey producer in the world, is expecting a honey crop of 180,000 tons in 1990, 9,000 tons less than last year's revised estimate and 24,000 tons below the record 1987 crop. Cool wet weather during the key bee breeding period, severe flooding, and delayed flowering in the Yangtze River Valley reportedly contributed to the decline. While encouraging farmers to raise bees as a sideline and supporting bee research, the Government does not subsidize honey production or exports. The vast majority of Chinese honey is produced in colonies owned by itinerant beekeepers who follow the spring from south to north, or migrate to a specific region to coincide with the cycle of an especially desirable flora.

## AUSTRALIA

Australian honey output for 1990 (July 1989 to June 1990) is forecast at 28,200 tons, up 2,200 tons from last year's revised estimate. The current year has had a cold and wet start. However, good soil moisture should ensure excellent spring and summer flowering conditions which will result in increased honey production. Increasing prices for petroleum, the apiarists' major input purchase, will limit hive movement and reduce profit margins. About 80 percent of Australian honey is derived from the nectar of the eucalyptus trees; the remainder is from ground flora such as "Paterson's curse" (*Echium plantagineum*), alfalfa, and clovers. Previous reports indicated that apiarists were concerned that biological control of the noxious weed Paterson's curse would cause a shortage of blossoms available to bees, and subsequently reduce honey production. This concern was particularly strong in New South Wales,

where an estimated 30 percent of the honey is derived from this source. Industry sources have indicated that biological control measures will take a long time to significantly affect the weed and, even then, will only limit the size of the area, not eradicate the weed.

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TABLE 19

HONEY PRODUCTION, SELECTED COUNTRIES  
 =====(METRIC TONS)=====

COUNTRY AND REGION	1986	1987	1988	1989	1990
NORTH AMERICA					
Canada	34,041	39,776	37,105	28,096	31,000
Mexico	54,000	47,850	46,140	48,530	49,500
United States	90,900	102,875	97,114	76,793	82,000 1/
TOTAL	178,941	190,501	180,359	153,419	162,500
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SOUTH AMERICA					
Argentina	36,000	44,000	46,000	40,000	39,000
Brazil	27,000	30,500	36,000	38,000	42,300
TOTAL	63,000	74,500	82,000	78,000	81,300
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EUROPE					
West Germany	16,000	16,000	18,000	29,000	23,000
USSR	210,000	219,245	243,000	249,000	270,000
TOTAL	226,000	235,245	261,000	278,000	293,000
-----					
ASIA					
CHINA	160,000	204,000	156,000	189,000	180,000
Japan	5,553	6,023	4,870	5,343	5,500
TOTAL	165,553	210,023	160,870	194,343	185,500
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OCEANIA					
Australia	25,077	28,000	27,622	26,000	28,200
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Total	658,571	738,269	711,851	729,762	750,500

1/ First estimate based on objective survey is expected to be released  
 in February 1991.

October 1990

Production Estimates and Crop Assessment Division

## WORLD SUNFLOWERSEED PRODUCTION

World sunflowerseed production and harvested area are forecast to reach record levels in 1990/91, with output pegged at 22.3 million tons from 16.5 million hectares. Total harvested area during 1990/91 will have increased 32 percent since 1980/81, while production--bolstered by higher average yields--will have climbed 68 percent during this same period. The interest in the sunflower for its superior oil and excellent meal by-product has encouraged a number of countries to increase or initiate production over the last 10 years. These include such countries as India, France, Italy, Morocco, Turkey, Venezuela, and Zimbabwe. Price competition and the opportunity to shift to more profitable alternative crops have reduced the area planted to sunflowers in the United States and China. The accompanying table provides the official USDA database for harvested area, average yields, and production from 1974/75 through 1990/91 (October forecast), with country rankings comparing 1980/81 with 1990/91.

### USSR

The Soviet Union is both the world's largest producer and consumer of sunflowerseed, accounting for 30 percent of the world's total output. It is therefore no surprise that sunflowerseed is the major oilseed crop in the Soviet Union, accounting for more than half of all domestic oilseed production. The next largest oilseed crop is cottonseed, which accounts for another 36 percent. Soybeans, rapeseed, and flaxseed together make up the bulk of the remaining 12 percent. The 1990 sunflowerseed harvest is expected to weigh in at 7.0 million tons from an estimated 4.65 million hectares--just a hair less than last year's second largest crop on record. The record crop of 7.4 million tons was harvested in 1973. This season's harvest is slightly behind schedule. Harvesting usually begins in late August and is complete by early October. Progress reports as of the first week of October had just 1.3 million hectares harvested--equal to nearly 30 percent of the crop.

### ARGENTINA

Argentina is the world's second largest single producer of sunflowerseed, accounting for 17 percent of total output. Second only to soybean production, which comprises 67 percent, sunflowerseed production accounts for 24 percent of Argentina's total oilseed output, which is forecast at 15.8 million tons during 1990/91. This season's sunflowerseed harvest is forecast to match last year's level of 3.8 million tons, the second largest crop since the record 4.1 million set during 1985/86.

Sunflowers are grown throughout the Pampean region, with production concentrated in southwestern Buenos Aires province. Planted area has increased in recent years, as farmers are increasingly satisfied with highly productive and drought-tolerant hybrids. While this year's sunflower planting has begun in northern Argentina, a minor growing region, the final planted area will reflect producer concern over last years reduced yields and economic alternatives. In addition to the wet harvest weather in 1989/90 that reduced yields and discouraged many farmers, several economic factors are influencing 1990/91 planting considerations. These include inflation, the rising cost of inputs (which has reduced overall profit potential), and higher international prices for competing crops such as corn and cotton relative to sunflowerseed.



## EUROPEAN COMMUNITY

The European Community's (EC) sunflowerseed production is estimated at 4.1 million tons, slightly below the record 4.2 million set in 1987/88. The EC ranks as the world's second largest producer in 1990/91, up from sixth in 1980/81. Spain and France are the largest producers of sunflowerseed, together accounting for 89 percent of sunflower area and 87 percent of production in 1990/91. Fearing another dry season and the lack of rain during spring planting, many Spanish and French farmers chose to plant more drought-resistant crops, such as sunflower, in lieu of grains. Since Spain normally has an arid climate, sunflowerseed yields are expected to be only marginally affected; however, the impact on French sunflowers is anticipated to be much more severe. Sunflowerseed yield per hectare in France during 1990 is expected to be 8 percent below the 5-year average and nearly 14 percent below last year. Even so, 1990/91 production in France is estimated at 2.3 million tons, up 6 percent from last year, due to a 23-percent increase in harvested area. As a result, sunflowerseed output will be significantly above the EC-10 Maximum Guaranteed Quantity (MGQ) support price threshold. The EC Executive Commission is expected to cut the EC-10 price support for sunflowerseed by approximately 21 percent. No change in the sunflowerseed price support for Spain and Portugal is expected. Their support price is based on a separate MGQ level, and sunflowerseed output is not estimated to be above their threshold.

## CHINA

Sunflowerseed is a relatively minor oilseed crop in China, yet its output is the world's fifth largest with 5 percent of total production. The 1990/91 harvest is estimated to weigh in at 1.2 million tons, up 22 percent from last year and nearly equal to 1988/89 production. The record 1.7-million-ton harvest was set in 1985/86. The Chinese primarily grow sunflowerseed for oil, but consumer demand for the seed as a snack food is increasing. Production is concentrated in the northern and western provinces of Inner Mongolia, Jilin, Xinjiang, Shanxi, and Hebei. Sunflowerseed area and production have been gradually declining from a peak of 1.47 million hectares and 1.73 million tons in 1985/86 due to problems with disease and competition with more profitable crops. In 1989, the sunflowerseed crop was badly affected by a severe summer drought, but both area and production are expected to increase in 1990 due to better weather and the incentive of higher Government oilseed prices. Warm temperatures and abundant rainfall created good sowing conditions, and the weather during the growing season was very favorable. Although wetter-than-normal weather this fall may have delayed the harvest, yields are expected to be the highest in over 5 years.

## INDIA

While India ranks as the world's third largest in total cultivated area devoted to sunflowers--up from fortieth 10 years ago--low average yields place it ninth in total production. Producer interest in the sunflower has increased area by 1,000 percent since 1980/81, from just 119,000 hectares to 1.2 million in 1990/91. Production during 1990/91 is estimated at 600,000 tons, up 20 percent from last year. This year's sunflower crop has benefited from an overall favorable monsoon season. As a result, yields well above the 5-year average are expected to boost production to India's second largest on record, just below the 635,000-ton crop harvested in 1987/88.

## EASTERN EUROPE

Eastern Europe ranks as the world's fourth largest producer of sunflowerseed, accounting for about 10 percent of world production. The 1990/91 sunflowerseed crop is estimated at 2.2 million tons, down 0.2 million or 9 percent from the 1989/90 crop. Of eight countries in Eastern Europe, only four produce sunflowerseed. Romania, with 35 percent of output, is Eastern Europe's largest sunflowerseed producer. Production in 1990/91 is estimated at 780,000 tons the same as in 1989/90, but a 35-percent increase from the drought-stricken 1988/89 crop. Hungary is expected to produce 554,000 tons, down 21 percent from last year, due primarily to a summer drought and a slight area decrease. Yugoslavia, which has planted higher yielding varieties on less area than in 1989/90, is expected to produce 426,000 tons, a 2-percent increase from 1989/90. After last year's excellent crop, Bulgaria is expected to harvest 374,000 tons during 1990, down 16 percent from last year. Although this year's sunflowerseed harvested area is expected to be only slightly below last season, Bulgarian producers suffered from summer drought conditions, which reduced average yields below the 5-year average.

## UNITED STATES

Production estimates provided on October 11 by the National Agricultural Statistics Service of the USDA peg the 1990/91 sunflowerseed harvest at 957,000 tons, down 143,000 tons or 13 percent from last month's estimates. This season's crop is nearly 20 percent larger than last year's, however. Harvested area is expected to reach 754,000 hectares, up 2 percent from last year. Yields are also expected to be much improved, climbing by an average of nearly 18 percent to 1.27 metric tons per hectare--compared with 1.1 tons per hectare last season. The U.S. sunflowerseed crop has trended downward since the record harvest of 3.3 million tons set in 1979. Over the last 3 years, production has tended to stabilize within the range of 800,000 tons to 1.0 million tons.

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# Table 20. World Sunflowerseed Area, Yield, and Production

		1974/75 1975/76 1976/77 1977/78 1978/79 1979/80 1980/81 1981/82 1982/83 1983/84 1984/85 1985/86 1986/87 1987/88 1988/89 1989/90 1990/91															
Country Rank 1980/81 1990/91		AREA HARVESTED (1,000 hectares)															
		1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
3	2	1,005	1,258	1,233	2,000	1,557	1,855	1,280	1,673	1,902	1,989	2,350	3,046	1,800	2,058	2,200	2,800
11	14	210	137	135	220	261	221	198	178	176	234	354	277	178	202	185	77
39	28	1	1	1	1	1	4	1	1	-	-	-	1	1	11	21	25
26	38	5	5	5	5	5	20	20	39	5	3	3	3	3	4	12	4
10	12	262	238	226	237	235	230	247	260	253	262	253	267	255	266	265	240
19	16	4	4	10	36	55	34	58	104	110	140	161	233	249	261	182	160
13	22	8	25	20	68	92	161	136	121	77	47	89	71	26	34	43	55
35	34	13	22	10	21	22	32	5	3	3	5	20	30	19	23	15	15
4	6	55	56	200	250	320	367	867	1,040	814	733	1,013	1,474	1,107	887	830	730
43	43	-	-	-	-	-	-	-	-	-	-	-	-	3	1	3	3
25	29	3	4	6	9	11	21	20	19	22	22	27	23	27	27	30	31
37	37	-	-	8	7	4	8	5	5	6	5	7	7	7	8	10	11
18	24	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
16	5	39	61	45	38	39	83	98	155	283	416	476	591	849	965	951	907
38	30	2	2	2	2	2	2	3	3	4	9	42	80	79	90	42	26
9	11	113	129	135	138	151	228	273	302	297	287	317	343	391	376	363	356
14	3	90	95	100	105	107	61	119	282	462	696	835	750	992	1,651	1,052	1,200
34	31	64	60	63	37	26	8	6	10	10	10	19	19	19	19	19	19
30	36	-	-	-	-	-	5	9	8	9	12	13	12	11	12	14	14
29	40	5	6	6	6	6	6	10	8	9	6	5	6	6	6	6	6
21	15	17	25	25	31	23	34	32	43	51	72	83	94	104	200	165	165
27	33	4	5	9	11	13	14	14	14	14	14	14	15	16	16	16	16
44	44	6	5	2	2	2	-	-	-	-	-	-	-	-	-	-	-
22	39	10	10	3	4	12	25	30	30	20	10	12	17	15	12	16	12
31	17	18	23	23	49	14	19	8	12	19	20	29	34	44	60	88	110
28	27	10	10	10	10	10	10	10	35	35	35	35	35	35	35	35	35
33	26	-	-	-	-	4	6	7	18	23	18	20	33	45	43	29	35
41	41	-	-	-	-	-	-	-	-	-	-	-	6	7	7	6	7
24	21	6	12	15	10	19	23	25	23	20	25	38	40	44	43	75	60
7	9	509	511	521	513	512	519	508	506	496	490	480	466	470	455	444	460
8	10	239	288	389	449	306	336	383	307	325	322	310	323	383	462	462	460
5	4	440	792	507	545	584	638	668	750	870	950	1,007	1,215	1,070	994	921	965
32	35	4	3	4	5	6	6	8	7	4	3	7	6	15	15	15	15
17	20	31	30	33	33	33	70	70	80	80	80	81	81	81	81	81	80
6	8	425	418	445	374	415	445	575	500	530	550	565	643	689	775	700	800
36	42	3	3	5	5	4	4	5	5	5	5	5	5	5	5	5	5
2	7	263	481	425	959	1,132	2,189	1,490	1,542	1,912	1,240	1,494	1,151	791	718	777	723
15	23	104	122	102	124	88	80	100	72	28	62	39	75	44	44	57	67
1	1	4,666	4,045	4,534	4,574	4,558	4,334	4,353	4,235	4,250	4,266	3,907	4,053	3,848	4,156	4,280	4,460
40	18	-	-	-	-	-	-	-	-	-	-	-	-	15	45	115	110
42	32	-	-	-	-	-	-	-	-	-	-	-	-	2	8	10	14
12	13	201	194	175	209	249	257	180	196	138	76	81	112	189	251	209	204
20	25	-	-	-	-	31	31	47	41	48	58	63	60	30	35	42	44
23	19	24	41	43	43	25	22	27	27	16	36	35	51	87	100	102	100
World Total		8,940	9,182	9,536	11,191	10,995	12,469	11,956	12,715	13,387	13,269	14,350	15,809	14,112	15,522	14,954	15,680
																	16,495

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# Table 20. World Sunflowerseed Area, Yield, and Production

Country Rank		1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
		YIELD (metric tons per hectare)																
24	15	Argentina	0.73	0.86	0.73	0.80	0.92	0.89	0.98	1.18	1.26	1.11	1.45	1.35	1.39	1.36	1.45	1.36
29	29	Australia	0.54	0.58	0.56	0.72	0.71	0.64	0.70	0.65	0.59	0.73	0.83	0.78	0.81	1.08	0.92	1.19
22	2	Austria	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-	1.00	1.00	3.18	2.67	2.92
16	22	Brazil	2.00	0.60	0.60	0.60	1.00	1.15	1.15	0.69	0.80	1.00	1.00	1.00	1.00	1.50	1.08	1.25
9	11	Bulgaria	1.40	1.79	1.60	1.78	1.57	1.80	1.54	1.76	2.02	1.73	1.83	1.37	1.92	1.54	1.38	1.86
33	36	Burma	0.25	0.25	0.30	0.36	0.25	0.38	0.55	0.67	0.64	0.81	0.88	0.93	1.02	0.85	0.71	0.75
15	17	Canada	1.50	1.20	1.20	1.19	1.30	1.35	1.22	1.36	1.22	1.09	1.08	1.15	1.38	1.53	1.12	1.25
11	5	Chile	1.31	1.23	1.50	1.43	1.50	1.19	1.40	1.67	1.67	1.40	1.50	1.83	1.79	2.13	2.00	2.13
20	14	China	1.27	1.27	0.75	0.80	0.87	0.93	1.05	1.28	1.58	1.83	1.68	1.18	1.39	1.40	1.42	1.34
43	16	Colombia	-	-	-	-	-	-	-	-	-	-	-	-	1.67	2.00	1.33	1.33
14	4	Czechoslovakia	1.00	1.00	1.17	1.22	1.36	1.24	1.25	1.74	1.64	1.86	1.59	1.83	2.30	2.30	2.07	2.26
2	8	Egypt	-	-	1.75	1.71	1.75	1.75	1.80	1.80	2.17	2.00	1.86	2.14	2.14	1.75	1.80	1.91
39	43	Ethiopia	0.66	0.49	0.41	0.41	0.41	0.36	0.34	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
1	6	France	1.54	1.62	1.38	1.82	1.95	1.92	2.32	2.57	2.30	1.99	2.01	2.50	2.24	2.60	2.46	2.34
6	12	Greece	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.33	2.00	2.22	1.60	2.04	2.08	1.61	1.79	2.04
5	10	Hungary	1.06	1.19	1.37	1.53	1.48	1.83	1.67	2.08	1.96	2.07	1.89	1.96	2.19	2.09	1.95	1.97
34	41	India	0.50	0.49	0.50	0.50	0.51	0.52	0.55	0.56	0.50	0.43	0.53	0.37	0.44	0.38	0.38	0.42
35	35	Iran	0.67	0.48	0.44	0.51	0.50	0.50	0.50	0.50	0.50	0.50	0.74	0.74	0.74	0.74	0.74	0.74
30	34	Iraq	-	-	-	-	-	1.00	0.67	1.00	0.67	0.83	0.77	0.92	0.82	0.83	0.79	0.79
23	24	Israel	1.40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	2.00	1.67	1.50	1.17	1.17	1.14
3	3	Italy	1.94	1.84	2.00	1.65	1.83	1.62	1.78	2.00	1.78	1.82	1.76	1.72	2.45	2.25	2.21	2.44
18	19	Kenya	0.75	1.00	1.00	1.18	1.08	1.07	1.07	1.14	1.21	1.07	1.29	1.27	1.25	1.25	1.25	1.25
44	44	Lebanon	0.50	0.40	0.50	0.50	0.50	-	-	-	-	-	-	-	-	-	-	-
21	31	Mexico	0.30	0.30	0.67	1.00	0.83	0.80	1.00	0.83	0.65	1.00	1.25	1.18	1.00	0.83	0.63	0.83
26	25	Morocco	0.78	0.70	0.70	0.39	0.86	1.05	0.88	0.67	0.63	0.80	0.66	0.74	0.73	0.78	1.00	0.95
10	38	Mozambique	0.80	0.80	0.80	1.50	1.50	1.50	1.50	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
28	21	Pakistan	-	-	-	-	0.25	0.33	0.71	0.83	0.83	0.83	0.90	0.82	0.71	1.00	1.17	1.20
40	26	Paraguay	-	-	-	-	-	-	-	-	-	-	-	0.83	1.14	1.29	1.17	1.00
25	33	Portugal	0.67	0.67	0.60	0.70	0.79	0.52	0.92	0.35	0.65	1.12	0.74	0.73	0.75	0.65	0.77	0.80
8	9	Romania	1.34	1.42	1.53	1.57	1.59	1.71	1.61	1.60	1.71	1.43	1.77	1.52	2.14	1.43	1.31	1.70
12	28	South Africa	0.87	0.89	1.21	0.99	1.02	0.98	1.35	0.83	0.62	0.56	0.76	0.84	1.05	1.17	0.87	0.98
27	23	Spain	0.65	0.53	0.62	0.71	0.80	0.79	0.74	0.54	0.86	0.79	1.09	0.81	0.86	1.01	1.22	0.94
7	27	Syria	1.00	1.33	0.75	1.40	1.67	1.83	1.63	1.29	1.50	2.00	0.86	1.50	1.00	1.00	1.00	1.00
32	40	Tanzania	0.32	0.23	0.21	0.21	0.36	0.57	0.57	0.51	0.53	0.53	0.52	0.52	0.52	0.52	0.52	0.53
13	20	Turkey	0.99	1.17	1.13	1.22	1.17	1.33	1.30	1.15	1.13	1.25	1.26	1.09	1.36	1.15	1.57	1.21
38	42	Uganda	0.33	0.33	0.40	0.40	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
17	18	United States	1.03	1.12	1.09	1.39	1.53	1.51	1.14	1.32	1.27	1.17	1.14	1.24	1.53	1.65	1.05	1.10
31	32	Uruguay	0.49	0.63	0.33	0.58	0.58	0.38	0.60	0.67	0.68	0.42	0.79	1.07	0.75	0.75	0.84	0.82
19	13	USSR	1.45	1.23	1.16	1.29	1.17	1.25	1.06	1.10	1.26	1.19	1.16	1.30	1.37	1.46	1.44	1.59
41	30	Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	0.73	0.76	0.78	0.88
42	1	West Germany	-	-	-	-	-	-	-	-	-	-	-	-	2.00	3.00	3.00	3.06
4	7	Yugoslavia	1.48	1.40	1.82	2.29	2.16	2.04	1.68	1.67	1.46	1.83	1.90	2.08	2.38	1.94	1.96	2.00
37	37	Zambia	-	-	-	-	0.39	0.55	0.40	0.71	0.67	0.74	0.67	0.50	0.63	0.57	0.48	0.82
36	39	Zimbabwe	0.21	0.29	0.58	0.51	0.36	0.41	0.48	0.33	0.31	0.42	0.51	0.37	0.25	0.47	0.47	0.54
World Average		1.20	1.09	1.07	1.16	1.16	1.16	1.23	1.11	1.17	1.25	1.17	1.25	1.24	1.36	1.35	1.36	1.35

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Production Estimates & Crop Assessment Division, FAS, USDA



# Table 20. World Sunflowerseed Area, Yield, and Production

		1974/75 1975/76 1976/77 1977/78 1978/79 1979/80 1980/81 1981/82 1982/83 1983/84 1984/85 1985/86 1986/87 1987/88 1988/89 1989/90 1990/91																
Country Rank 1980/81 1990/91		PRODUCTION (1,000 metric tons)																
		3	2	14	15	39	20	23	37	10	14	17	13	19	32	28	4	5
Argentina	2	732	1,085	900	1,600	1,430	1,650	1,260	1,980	2,400	2,200	3,400	4,100	2,500	2,800	3,200	3,800	3,800
Australia	15	113	80	75	158	186	142	139	115	104	170	293	215	145	219	170	92	158
Austria	20	1	1	1	1	1	4	1	1	-	-	-	1	1	35	56	73	87
Brazil	37	10	3	3	3	5	23	23	27	4	3	3	3	3	6	13	5	14
Bulgaria	14	368	426	362	423	369	415	380	457	511	454	462	365	489	410	367	447	374
Burma	17	1	1	3	13	14	13	32	70	70	114	141	216	253	221	129	120	115
Canada	13	12	30	24	81	120	218	166	165	94	51	96	82	36	52	48	69	88
Chile	28	17	27	15	30	33	38	7	5	5	7	30	55	34	49	32	30	32
China	5	70	71	150	200	279	340	910	1,332	1,286	1,340	1,704	1,732	1,544	1,241	1,180	980	1,200
Colombia	42	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	4	4
Czechoslovakia	21	3	4	7	11	15	26	25	33	36	41	43	42	62	62	62	70	70
Egypt	31	0	0	14	12	7	14	9	9	13	10	13	15	15	14	18	21	25
Ethiopia	24	40	30	25	25	25	22	21	22	22	22	22	22	22	22	22	22	22
France	12	60	99	62	69	76	159	227	398	650	828	958	1,477	1,902	2,508	2,335	2,118	2,250
Greece	30	2	2	2	2	2	2	5	4	8	20	67	163	164	145	75	53	30
Hungary	9	120	154	185	211	223	417	456	627	582	593	600	673	857	787	708	701	554
India	15	45	47	50	52	55	32	66	159	230	300	440	280	436	635	397	500	600
Iran	37	43	29	28	19	13	4	3	5	5	5	14	14	14	14	14	14	14
Iraq	38	-	-	-	-	-	5	6	8	6	10	10	11	9	10	11	11	11
Israel	40	7	6	6	6	6	6	10	8	9	5	10	10	9	7	7	7	8
Italy	17	33	46	50	51	42	55	57	86	91	131	146	162	255	450	365	330	380
Kenya	27	3	5	9	13	14	15	15	16	17	15	18	19	20	20	20	20	20
Lebanon	44	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	20	3	3	2	4	10	20	30	25	13	10	15	20	15	10	10	10	10
Morocco	33	14	16	16	19	12	20	7	8	12	16	19	25	32	47	88	105	138
Mozambique	26	8	8	8	15	15	15	15	20	20	20	20	20	20	20	20	20	20
Pakistan	35	-	-	-	-	1	2	5	15	19	15	18	27	32	43	34	42	48
Paraguay	41	-	-	-	-	-	-	-	-	-	-	-	5	8	9	7	5	7
Portugal	23	4	8	9	7	15	12	23	8	13	28	28	29	33	28	58	48	60
Romania	5	681	728	799	807	816	888	817	810	847	700	851	710	1,004	650	580	780	780
South Africa	7	209	255	471	444	312	328	517	254	202	180	235	272	404	540	400	400	450
Spain	8	286	416	312	388	470	504	495	405	750	750	1,100	990	920	1,006	1,123	906	1,300
Syria	29	4	4	3	7	10	11	13	9	6	6	6	9	15	15	15	15	15
Tanzania	18	10	7	7	7	12	40	40	41	42	42	42	42	42	42	42	42	42
Turkey	6	420	488	505	455	485	590	750	575	600	685	710	700	940	895	1,100	1,200	850
Uganda	38	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
United States	2	272	541	463	1,330	1,732	3,309	1,697	2,035	2,419	1,451	1,698	1,430	1,214	1,183	813	798	957
Uruguay	16	51	77	34	72	51	30	60	48	19	26	31	80	33	33	48	55	55
USSR	1	6,784	4,990	5,277	5,904	5,333	5,414	4,618	4,678	5,341	5,063	4,527	5,260	5,258	6,075	6,157	7,070	7,000
Venezuela	43	-	-	-	-	-	-	-	-	-	-	-	-	11	34	90	100	110
West Germany	40	-	-	-	-	-	-	-	-	-	-	-	-	4	24	30	45	55
Yugoslavia	11	298	272	319	479	539	525	302	327	202	139	154	233	449	486	410	417	426
Zambia	25	-	-	-	-	12	17	19	29	32	43	42	30	19	20	20	36	30
Zimbabwe	22	5	12	25	22	9	9	13	9	5	15	18	19	22	47	48	65	65
World Total		10,733	9,974	10,224	12,943	12,752	15,336	13,241	14,825	16,687	15,510	17,986	19,560	19,252	20,918	20,328	21,648	22,276

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GRAPH 6

World Sunflowerseed  
Harvested Area, Yield, and Production

